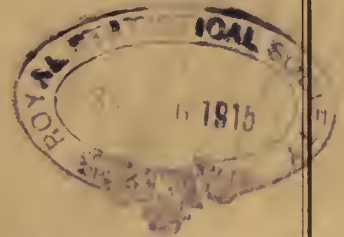


City of Birmingham



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REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1914.

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BIRMINGHAM :

HUDSON AND SON, PRINTERS, EDMUND STREET AND LIVERY STREET.

1915.







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PUBLIC HEALTH AND HOUSING DEPARTMENT,

THE COUNCIL HOUSE,

BIRMINGHAM.

*July, 1915.*

TO THE CHAIRMAN AND MEMBERS OF THE PUBLIC HEALTH AND  
HOUSING COMMITTEE.

GENTLEMEN,

I herewith submit the Annual Report required by order of the Local Government Board on the Health of Birmingham during the year 1914.

This Report forms one of a series of reports made by my colleagues every year on the work of their departments dealing with questions of health, and unless these others are taken into consideration at the same time, it is impossible to obtain a comprehensive idea of what is being done by the City Council for the welfare of the people.

The year 1914 was, notwithstanding the great strain put on our people by the war, a year of steady progress in Public Health work, and a year the statistics of which compare favourably with those of former years, and with the statistics of other large industrial centres.

For obvious reasons this Report has been curtailed when compared with previous reports. No less than sixteen Medical Officers employed in various branches of the Public Health Department, and 50 Inspectors and others, have gone on military service. The deficiency thus caused has, however, been adequately met by the engagement, where necessary, of temporary men who are unfit for military service.

During 1914 the chief new Public Health legislation which was sanctioned by Parliament, and which affects Birmingham, was (1) the Birmingham Corporation Act of 1914 and (2) the Milk and Dairies Act.

The scheme for the treatment and prevention of Pulmonary Tuberculosis which had been approved by the Local Government Board came into full working order in September, 1914.

Again much real progress was made in formulating, and bringing into use, additional means of dealing with infant welfare.

The report of the Housing Inquiry Committee, referred to later in this Report, marks a definite step forward in the pressing and important question of "Housing."

I desire to express to the members of your Committee the deep sense of the obligation the whole staff is under to you for the uniform courtesy and assistance given to us in the somewhat difficult work which we are expected to carry out.

Personally, I should like to add that my duties are always lightened by the knowledge that they are performed for a Committee which is sympathetic, while at the same time one can rely on loyal and devoted colleagues and staff.

I am, Gentlemen,

Your obedient servant,

JOHN ROBERTSON, M.D., B.Sc.

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# City of Birmingham.

## REPORT OF THE MEDICAL OFFICER OF HEALTH

*For the year 1914.*

### POPULATION.

Estimated locally from houses occupied ... ..	882,534
Estimate of Registrar-General ... ..	860,591

Unless otherwise stated the local estimate is used, as it is fairly certain that the increase since 1911 has been at a somewhat greater rate than during 1901-10.

### ESTIMATED NUMBER OF MALES AND FEMALES AT EACH AGE GROUP.

	Males.	Females.	TOTAL.
0—1 ... ..	10,023	9,783	19,806
1—2 ... ..	9,415	9,161	18,576
2—3 ... ..	10,168	10,070	20,238
3—4 ... ..	9,839	10,063	19,902
4—5 ... ..	9,617	9,645	19,262
5—10 ... ..	46,301	46,190	92,491
10—15 ... ..	42,717	43,578	86,295
15—18 ... ..	23,328	25,675	49,003
18—19 ... ..	7,574	9,036	16,610
19—20 ... ..	7,359	8,873	16,232
20—25 ... ..	35,164	43,951	79,115
25—30 ... ..	36,202	42,717	78,919
30—35 ... ..	36,162	39,613	75,775
35—40 ... ..	32,117	34,324	66,441
40—45 ... ..	26,688	28,423	55,111
45—50 ... ..	22,041	23,334	45,375
50—60 ... ..	30,496	34,046	64,542
60—70 ... ..	17,596	21,187	38,783
70—80 ... ..	6,697	9,895	16,592
80—90 ... ..	1,162	2,125	3,287
90—100 ... ..	60	117	177
100 and over ... ..	1	1	2
Total ... ..	420,727	461,807	882,534

### DISTRIBUTION OF POPULATION OVER WARDS.

WARD.	Estimated Population.*	Area in Acres.	Persons per Acre.	Occupied Houses.	Void Houses.
AcocK's Green ... ..	27,019	2,229	12·1	6,433	158
All Saints' ... ..	43,259	520	83·1	9,204	193
Aston ... ..	41,722	606	68·8	8,877	88
Balsall Heath ... ..	40,806	457	89·2	9,274	78
Duddeston and Nechells ... ..	41,158	536	76·7	8,757	453
Edgbaston ... ..	33,210	2,639	12·5	7,380	373
Erdington (North) ... ..	16,151	2,603	6·2	3,756	61
Erdington (South) ... ..	17,555	2,032	8·6	3,901	52

\* The inmates of institutions are excluded from the Ward Populations.

DISTRIBUTION OF POPULATION OVER WARDS—*continued.*

WARD.	Estimated Population.*	Area in Acres.	Persons per Acre.	Occupied Houses.	Void Houses.
Handsworth ... ..	26,682	1,415	18·8	6,205	70
Harborne ... ..	15,687	2,379	6·5	3,735	52
King's Norton ... ..	21,905	3,749	5·8	4,762	32
Ladywood ... ..	30,071	299	100·5	6,398	259
Lozells ... ..	34,747	354	98·1	7,897	70
Market Hall ... ..	17,108	339	50·4	3,640	231
Moseley and King's Heath ...	25,946	1,838	14·1	6,034	166
Northfield ... ..	7,783	6,406	1·2	1,810	28
Rotton Park ... ..	40,241	685	58·7	8,748	202
St. Bartholomew's ... ..	39,225	520	75·4	7,845	318
St. Martin's and Deritend ...	41,533	410	101·3	9,029	371
St. Mary's ... ..	32,746	355	92·2	6,822	328
St. Paul's ... ..	29,795	382	78·0	6,621	421
Saltley ... ..	27,531	1,198	22·9	5,985	26
Sandwell ... ..	18,967	1,538	12·3	4,411	50
Selly Oak ... ..	26,151	1,250	20·9	5,685	39
Small Heath ... ..	29,344	686	42·7	6,669	42
Soho ... ..	27,192	714	38·0	6,180	120
Sparkbrook ... ..	35,942	657	54·7	7,987	111
Sparkhill ... ..	22,695	2,636	8·6	5,158	101
Washwood Heath ... ..	33,821	1,319	25·6	7,196	40
Yardley ... ..	16,542	2,786	5·9	3,596	44
Whole City ... ..	882,534	43,537	20·2	189,995	4,577

\* The inmates of institutions are excluded from the Ward Populations.

## MARRIAGES.

There were 7,488 marriages in 1914, as compared with 7,245 in 1913. The marriage-rate was 17·0 as compared with 16·9 in the previous year.

## BIRTHS.

There were 23,207 live births registered during the year, as compared with 23,812 in 1913.

The birth-rate based on our local estimate of the population was 26·4, as compared with 27·3 in 1913. On the Registrar-General's estimate of population the birth-rate was 27·0 per 1,000.

## BIRTH-RATE PER 1,000.

Birmingham.			England and Wales.			
Year	Birth-rate	Average	Year	Birth-rate	Average	
1871-1875 (Old City) ... ..	...	40·4	...	...	35·5	
1876-1880	...	41·0	...	...	35·3	
1881-1885	...	36·1	...	...	33·5	
1886-1890	...	32·9	...	...	31·4	
1891-1895	...	32·7	...	...	30·5	
1896-1900	...	33·3	...	...	29·3	
1901 (Extended City) 31·4	}	30·7	28·5	}	28·2	
1902			31·2			28·5
1903			30·9			28·5
1904			31·0			28·0
1905			29·0			27·3
1906			29·4			27·2
1907			28·8			26·5
1908			29·1			26·7
1909			27·4			25·8
1910			26·8			25·1
1911	26·1	24·4	}	26·3		
1912	26·1	23·8				
1913	27·3	23·9				
1914	26·4	23·8				

## BIRTH-RATES IN LARGEST TOWNS IN 1914.

Glasgow	...	...	28.0 per 1,000.	Bradford	...	...	19.7 per 1,000.
Birmingham	...	...	26.4	Hull	...	...	27.7
Liverpool	...	...	30.4	Newcastle	...	...	27.9
Manchester	...	...	25.9	Nottingham	...	...	23.4
Sheffield...	...	...	27.5	Stoke	...	...	32.0
Leeds	...	...	23.6	Portsmouth	...	...	23.7
Bristol	...	...	21.6	Salford	...	...	26.7
Edinburgh	...	...	19.9	Leicester	...	...	22.0
West Ham	...	...	30.4				

## BIRTH-RATES IN WARDS.

Central Wards	St. Paul's	...	...	...	...	34.3	Average 33.1
	St. Mary's	...	...	...	...	36.0	
	Duddeston and Nechells	...	...	...	...	37.3	
	St. Bartholomew's	...	...	...	...	34.3	
	St. Martin's and Deritend	...	...	...	...	33.7	
	Market Hall	...	...	...	...	26.3	
	Ladywood	...	...	...	...	29.8	
Middle Wards	Lozells	...	...	...	...	22.5	Average 25.5
	Aston	...	...	...	...	31.2	
	Washwood Heath	...	...	...	...	29.3	
	Saltley	...	...	...	...	27.6	
	Small Heath	...	...	...	...	22.6	
	Sparkbrook	...	...	...	...	25.6	
	Balsall Heath	...	...	...	...	24.0	
	Edgbaston	...	...	...	...	16.4	
	Rotton Park	...	...	...	...	27.8	
All Saints'	...	...	...	...	28.5		
Outer Wards	Soho	...	...	...	...	23.0	Average 21.8
	Sandwell	...	...	...	...	22.1	
	Handsworth	...	...	...	...	19.7	
	Erdington North	...	...	...	...	22.0	
	Erdington South	...	...	...	...	22.4	
	Yardley	...	...	...	...	22.6	
	Acock's Green	...	...	...	...	26.5	
	Sparkhill	...	...	...	...	18.2	
	Moseley and King's Heath	...	...	...	...	16.3	
	Selly Oak	...	...	...	...	25.5	
	King's Norton	...	...	...	...	20.9	
Northfield	...	...	...	...	24.2		
Harborne	...	...	...	...	20.6		

## ILLEGITIMATE BIRTHS IN BIRMINGHAM.

There were 698 births shown as illegitimate, against 730 in the previous year. This represents 3% of the total. In England in 1913, it was 4.3%. Among a certain class of the population of Birmingham it is the custom not to make any legal contract in marriage, but these people are faithful to each other for life. The children born to such are, however, illegitimate.

TABLE SHOWING PROPORTION OF WOMEN TO TOTAL POPULATION AND OF MARRIED WOMEN TO ALL FEMALE POPULATION AT CENSUS PERIODS.

	Proportion per cent. of Women 15-45 years in Total Population of both sexes and all ages.	Proportion per cent. of Married Women in Female Population aged 15-45.	Of the Married Women aged 15-45 the proportion per cent. at four groups of ages.			
			15-20	20-25	25-35	35-45
1881	24.2	51.8	1.0	14.6	46.4	38.0
1891	24.7	48.9	0.9	14.1	46.4	38.6
1901	26.2	48.6	0.8	13.9	48.0	37.3
1911	26.4	48.5	0.4	9.4	47.2	43.0

## NOTIFICATION OF BIRTHS ACT.

There were 21,838 live births and 762 still births notified under this Act. The notified births represent 94.2 per cent. of the live births registered during the year.

The object of this early notification is to enable the Health Department to get early information of births in areas where advice by skilled nurses may be of great use in the bringing up of the infants.

Of the 21,838 live births, 15,472 were visited on one or more occasions by the Health Visitor for the district. Details of this work will be found in the last section of this report.

## DEATHS.

There were 13,026 deaths registered in Birmingham in 1914, as compared with 12,962 in 1913.

Of the deaths 6,708 were males,  
6,318 were females,  

---

290 excess of male deaths over female.

The death-rate was 14.8 based on the local estimate of population, or 15.2 based on the estimate of the Registrar-General.

DEATH-RATE PER 1,000.						
Birmingham.				England and Wales.		
1871-1875	(Old City)	...	Average	25.2	...	Average 22.0
1876-1880	"	...	"	22.8	...	" 20.8
1881-1885	"	...	"	20.7	...	" 19.4
1886-1890	"	...	"	20.2	...	" 18.9
1891-1895	"	...	"	20.3	...	" 18.7
1896-1900	"	...	"	20.5	...	" 17.7
1901 (Extended City)	17.5	}	"	16.5	...	16.9
1902	16.3					16.3
1903	15.8					15.5
1904	17.7					16.3
1905	15.1					15.3
1906	15.9					15.5
1907	15.3					15.1
1908	15.3					14.8
1909	15.1					14.6
1910	13.2					13.5
1911	15.0	14.6				
1912	14.1	13.3				
1913	14.9	13.7				
1914	14.8	14.0				

The chief causes of death during 1914 were as follows:—

	No. of Deaths in 1914.	Increase or Decrease compared with 1913.
Organic Diseases of Heart	1,201	+148
Bronchitis	1,109	+ 65
Pneumonia	1,090	+102
Pulmonary Tuberculosis	1,059	+ 18
Other Forms of Tuberculosis	234	- 66

The chief causes of death—*continued*.

	No. of Deaths in 1914.	Increase or Decrease compared with 1913.
Cancer ... ..	773	- 120
Diarrhœa and Enteritis ... ..	757	- 203
Old Age ... ..	592	- 20
Cerebral Hæmorrhage ... ..	519	- 6
Premature Birth ... ..	492	- 7
Infantile Debility, Icterus, etc. ... ..	446	- 17
Accidents and Negligence ... ..	382	- 9
Nephritis and Bright's Disease ... ..	333	- 56
Measles ... ..	310	- 88
Whooping Cough ... ..	309	- 146
Diphtheria ... ..	260	+ 91
Convulsions (under 5) ... ..	168	- 9
Scarlet Fever ... ..	148	- 31
Influenza ... ..	142	+ 30
Meningitis ... ..	132	- 1
Inflammation of Stomach ... ..	123	+ 8

## COMPARATIVE DEATH-RATES IN LARGE TOWNS, 1914.

	Recorded Death-Rate.	Standardized Death-Rate.
Glasgow ... ..	16·6	18·2
Birmingham ... ..	14·8	15·4
Liverpool ... ..	19·5	20·1
Manchester ... ..	16·7	18·0
Sheffield ... ..	16·4	17·3
Leeds ... ..	14·9	15·8
Bristol ... ..	13·4	13·2
Edinburgh ... ..	15·5	16·0
West Ham ... ..	14·9	15·3
Bradford ... ..	15·6	16·5
Hull ... ..	15·4	15·5
Newcastle ... ..	17·1	18·0
Nottingham ... ..	15·3	15·4
Stoke ... ..	17·6	18·8
Portsmouth ... ..	12·7	12·6
Salford ... ..	16·6	17·8
Leicester ... ..	13·9	14·3

## DEATH-RATES IN GROUPS OF WARDS, 1912-14.

	Death-Rate per 1,000, 1914.	Average for 3 years, 1912-14.
Central Wards	St. Paul's ... ..	21·4
	St. Mary's ... ..	24·9
	Duddeston and Nechells ... ..	21·2
	St. Bartholomew's ... ..	20·2
	St. Martin's and Deritend ... ..	21·2
	Market Hall ... ..	20·1
	Ladywood ... ..	19·6
		Average 20·8
Middle Wards	Lozells ... ..	14·3
	Aston ... ..	16·6
	Washwood Heath ... ..	12·9
	Saltley ... ..	11·7
	Small Heath ... ..	11·2
	Sparkbrook ... ..	13·4
	Balsall Heath ... ..	12·6
	Edgbaston ... ..	12·3
	Rotton Park ... ..	15·8
All Saints' ... ..	15·1	
		Average 13·4

DEATH-RATES IN GROUPS OF WARDS—*continued.*

					Death-Rate per 1,000, 1914.		Average for 9 years, 1912-14
Outer Wards	Soho	...	...	...	12.5	...	12.5
	Sandwell	...	...	...	10.6	...	9.5
	Handsworth	...	...	...	11.2	...	10.4
	Erdington North	...	...	...	11.7	...	10.3
	Erdington South	...	...	...	9.7	...	9.6
	Yardley	...	...	...	11.1	...	10.8
	Acock's Green	...	...	...	11.8	...	11.8
	Sparkhill	...	...	...	8.8	...	9.3
	Moseley and King's Heath	...	...	...	9.7	...	9.5
	Selly Oak	...	...	...	11.3	...	11.5
	King's Norton	...	...	...	9.8	...	9.6
	Northfield	...	...	...	10.0	...	9.2
	Harborne	...	...	...	10.3	...	10.1
							Average 10.3

DEATH RATES FROM CERTAIN CAUSES IN GROUPS OF WARDS IN THE THREE YEARS  
1912-1914.

DISEASE.	Central Wards.	Middle Wards.	Outer Wards.	Central Wards above or below Outer Wards.
Measles ... ..	.99	.40	.21	+ 371 per cent.
Scarlet Fever ... ..	.22	.21	.13	+ 69 "
Whooping Cough ... ..	.51	.29	.17	+ 200 "
Diphtheria ... ..	.20	.20	.22	- 9 "
Influenza ... ..	.10	.15	.16	- 37 "
Pulmonary Tuberculosis ...	1.88	1.14	.77	+ 144 "
Other forms of Tuberculosis	.44	.26	.20	+ 120 "
Cancer ... ..	1.01	.94	.94	+ 7 "
Meningitis ... ..	.25	.16	.10	+ 150 "
Organic Diseases of Heart	1.41	1.21	1.04	+ 36 "
Bronchitis ... ..	2.17	1.10	.65	+ 234 "
Pneumonia ... ..	1.97	1.06	.72	+ 174 "
Diarrhœa and Enteritis ...	1.61	.69	.28	+ 475 "
Nephritis and Bright's Dis- ease ... ..	.52	.38	.33	+ 58 "
Suicides ... ..	.12	.10	.07	+ 71 "
Accidents and Negligence...	.78	.37	.26	+ 200 "
*Puerperal Diseases ...	2.5	3.9	3.9	- 36 "
*Premature Birth (under 1 year) ... ..	24.2	20.2	19.4	+ 25 "
*Congenital Malformation (under 1 year) ... ..	3.5	4.0	4.0	- 13 "
*Infantile Debility and Marasmus ... .. (under 1 year)	27.2	15.6	10.4	+ 162 "

\* Per 1,000 Births.

The tables above have been set out at length without comment. No person who has a knowledge of the social aspects of Birmingham can but be impressed with the very close relation which exists between the distribution of preventable deaths and low social status. One can with fair accuracy after a casual visit to a particular street judge of the mortality rate and of the class of diseases which will be prevalent and fatal.



During the three years shown above the mortality in the slum areas was two or three times what it is in other artisan districts containing large populations. If notably healthy areas are taken, the difference is even greater.

The statistics for three Model Estates for 1914 were as follows:—

	Estimated Population.	Birth-Rate per 1,000.	Death-Rate per 1,000.	Infant Mortality per 1,000 Births.
Bournville ... ..	4,123	7.3	3.4	33
Harborne Tenants ...	1,750	22.9	5.1	25
Ideal Estate, Bordesley Green ... ..	1,022	27.4	6.8	107
Total for three Estates, 1914 ... ..	6,895	14.2	4.4	51
Comparative figure, 1913 ... ..	6,636	19.7	5.5	45

The rate of mortality at various age periods during 1914 was as follows:—

	Population.	Deaths.	Death-Rate per 1,000.
Under 5 years ... ..	97,784	4,358	44.7
5 and under 10 ... ..	92,491	381	4.1
10 .. 15 ... ..	86,295	189	2.2
15 ,, 20 ... ..	81,845	201	2.5
20 .. 25 ... ..	79,115	248	3.1
25 ,, 35 ... ..	154,694	673	4.4
35 ,, 45 ... ..	121,552	1,065	8.8
45 ,, 55 ... ..	81,578	1,283	15.7
55 ,, 65 ... ..	50,416	1,513	30.1
65 ,, 75 ... ..	27,596	1,739	63.2
75 ,, 85 ... ..	8,237	1,117	136.0
85 years and upwards ... ..	931	259	279.0

#### INFANT MORTALITY.

Great attention was directed by the Government and by the sanitary authorities of this country during 1914 to the prevention of this mortality of infants.

In Birmingham, as elsewhere, it is still high.

It is now generally recognised as preventable and quite unnecessary. It is, indeed, in its excessive form already prevented among large groups in every community. If one takes as a standard the infant mortality of such an area as Balsall Heath, with a population of over 40,000 persons, as a typical example of a district occupied mainly by careful artisans, then one finds other large areas in the City with a mortality exceeding the standard by 100 per cent. and more.

The causes in operation producing this excessive mortality are in the main well known. The chief of these is ignorance, and this is frequently associated with thriftlessness and carelessness. A visit to the homes of the people where this high mortality occurs will convince almost anyone that ignorance, thriftlessness and

carelessness are the main causes. If the system in vogue in Birmingham of allowing so large a percentage of the girls to employ themselves in low grade factory labour is to continue, steps will have to be taken to ensure that these girls between the ages of 14 and 20 have adequate opportunity of keeping themselves informed as to the ordinary principles of healthy living. It is possible definitely to assert that there are large numbers of girls growing up to womanhood without a proper experience in the things which go to make a healthy home. Some, of course, of the women factory workers do of their own accord get adequate experience, others acquire it as a result of imitation, or by mistakes and disasters, while there are many others who never seem to be able to get the experience at all.

It is not necessary to confine one's observations to the way in which these women deal with the feeding and treatment of their babies. The same want of knowledge is indicated in the catering and the cookery for the household. In many cases this is as bad as it well can be.

Again there are large numbers of these young women who are quite unable to mend their own clothes. It would be easily possible to get samples of their work to demonstrate this point.

The methods that have so far been adopted to meet these defects are noted in the later pages of this section of the report.

It will be remembered that the summer of 1914 was a long one, with considerable bright sunshine, but not a high temperature. It was, indeed, one in which high infant mortality was to be looked for. On the whole, the facts recorded below may be regarded as indicating a successful result of the efforts that have so far been made to influence the mortality.

During the year 1914, 2,839 infants under one year of age died—1,605 males and 1,234 females. This gives a mortality rate per 1,000 infants born during the year of 122.

The rates in previous years were as follows:—

#### INFANTILE MORTALITY RATE.

Birmingham.			England and Wales.
1871-1875 (Old City)	...	Average 182	Average 153
1876-1880	..	.. 164	.. 145
1881-1885	..	.. 161	.. 139
1886-1890	..	.. 173	.. 145
1891-1895	..	.. 176	.. 151
1896-1900	..	.. 199	.. 156
1901 (Extended City)	176	.. 157	151
1902	144		133
1903	147	.. 131	132
1904	179		145
1905	141		128
1906	157	.. 117	132
1907	133		118
1908	130	.. 105	120
1909	121		109
1910	115	.. 95	105
1911	150		130
1912	111	.. 108	95
1913	129		108
1914	122		105



## INFANT MORTALITY IN BIRMINGHAM.



### MEAN INFANT MORTALITY, 1912-14.

GENERAL GROUP OF WARDS (Dark) ... ..	130-210 per 1,000.
MIDDLE RING OF WARDS (Medium) ... ..	85-130 "
OUTER RING OF WARDS (Light) ... ..	60-85 "

The next table shows the infant mortality rate in other large towns :—

INFANTILE MORTALITY IN LARGE TOWNS.

Glasgow ... ..	133	per 1,000.	Bradford ... ..	123	per 1,000.
Birmingham ... ..	122	"	Hull ... ..	121	"
Liverpool ... ..	139	"	Newcastle ... ..	136	"
Manchester ... ..	127	"	Nottingham ... ..	145	"
Sheffield ... ..	132	"	Stoke ... ..	144	"
Leeds ... ..	123	"	Portsmouth ... ..	85	"
Bristol ... ..	100	"	Salford ... ..	125	"
Edinburgh ... ..	110	"	Leicester ... ..	120	"
West Ham ... ..	106	"			

The mortality rate in each municipal ward during the past three years is set out in the following table :—

WARD.	INFANT MORTALITY RATE.			
	1912.	1913.	1914.	Mean of 3 years.
Acock's Green ... ..	79	102	95	92
All Saints' ... ..	98	124	135	119
Aston ... ..	105	136	138	126
Balsall Heath ... ..	81	99	80	87
Duddeston and Neehells ... ..	180	179	173	177
Edgbaston ... ..	87	109	72	89
Erdington North ... ..	62	68	104	78
Erdington South ... ..	97	82	74	84
Handsworth ... ..	78	69	94	80
Harborne ... ..	87	54	53	65
King's Norton ... ..	80	78	78	79
Ladywood ... ..	123	159	166	149
Lozells ... ..	102	100	115	106
Market Hall ... ..	138	155	166	153
Moseley and King's Heath ... ..	74	60	54	63
Northfield ... ..	60	63	90	71
Rotton Park ... ..	112	137	134	128
St. Bartholomew's ... ..	134	205	167	169
St. Martin's and Deritend ... ..	136	180	148	155
St. Mary's ... ..	194	229	195	206
St. Paul's ... ..	134	162	153	150
Saltley... ..	109	94	109	104
Sandwell ... ..	87	79	64	77
Selly Oak ... ..	57	82	70	70
Small Heath ... ..	85	113	89	96
Soho ... ..	76	104	89	90
Sparkbrook ... ..	90	98	102	97
Sparkhill ... ..	61	60	75	65
Washwood Heath ... ..	97	114	87	99
Yardley ... ..	109	67	83	86

These rates for the three-year period have been again diagrammatically represented on the small map opposite, which shows in a very clear manner the distribution of infant mortality.

The causes of death of these young infants can be seen in the next table.

INFANTILE MORTALITY DURING THE YEAR 1914.  
DEATHS FROM STATED CAUSES IN WEEKS AND MONTHS UNDER ONE YEAR OF AGE.

CAUSE OF DEATH.	Weeks.				Months.				Total Deaths under 1 year.
	0-1	1-2	2-3	3-4	1-3	3-6	6-9	9-12	
Small-pox ... ..	—	—	—	—	—	—	—	—	—
Chicken-pox ... ..	—	—	—	—	—	—	1	1	2
Measles ... ..	—	—	—	—	—	5	15	30	50
Scarlet Fever... ..	—	—	—	—	—	—	—	1	1
Whooping Cough ... ..	—	1	3	2	19	28	41	47	141
Diphtheria and Croup ... ..	—	—	—	—	—	2	1	8	11
Erysipelas ... ..	—	1	2	—	4	—	—	—	7
Tuberculous Meningitis ... ..	—	—	—	—	2	6	8	9	25
Abdominal Tuberculosis ... ..	—	—	—	1	9	9	15	4	38
Other Tuberculous Diseases ... ..	—	—	—	—	1	2	4	3	10
Meningitis (not Tuberculous) ... ..	1	1	—	—	5	10	15	11	43
Convulsions ... ..	15	13	6	7	36	23	22	15	137
Laryngitis ... ..	1	—	—	—	—	1	1	1	4
Bronchitis ... ..	1	—	10	16	61	39	34	32	193
Pneumonia (all forms) ... ..	1	5	4	2	41	48	73	83	257
Diarrhœa ... ..	1	1	3	3	38	65	45	30	186
Enteritis ... ..	—	4	7	6	84	114	73	55	343
Gastritis ... ..	1	2	1	2	27	26	7	3	69
Syphilis ... ..	5	—	4	3	16	2	2	1	33
Rickets ... ..	—	—	—	—	—	1	4	6	11
Suffocation (Overlying) ... ..	6	5	10	5	38	19	2	2	87
Injury at Birth ... ..	23	3	2	—	—	—	—	—	28
Atelectasis ... ..	20	2	2	2	—	—	—	—	26
Congenital Malformations ... ..	28	16	12	5	10	12	5	3	91
Premature Birth ... ..	368	31	41	13	30	5	3	1	492
Atrophy, Debility and Marasmus... ..	113	33	29	27	97	84	31	21	435
Other causes ... ..	22	9	10	9	18	15	17	19	119
All causes ... ..	606	127	146	103	536	516	419	386	2,839

To summarise the table for 1914 we may group some of the diseases as follows :

DEATHS UNDER 1 YEAR DURING 1914.

Diarrhœal Diseases ... ..	529 deaths.
Prematurity and Malformation ... ..	583 "
Debility, Marasmus, etc. ... ..	435 "
Bronchitis and Pneumonia ... ..	450 "
Convulsions and Meningitis ... ..	180 "
Measles and Whooping Cough ... ..	191 "
Suffocation ... ..	87 "
Tubercular Diseases ... ..	73 "
Syphilis ... ..	33 "
Scarlet Fever and Diphtheria ... ..	12 "
Other Causes ... ..	266 "

PREVENTION OF INFANT MORTALITY.

There are so many organisations at work in this City which are directly or indirectly dealing with this subject that it is a very difficult matter to adequately ascertain the large amount of very detailed work which is being done.

(1) One may mention first the ground work which is being laid in the Public Elementary Schools in the teaching of the elementary rules of healthy living, of cookery, laundry work and sewing. In practice it is found that between the age

of leaving school and of making homes for themselves, many of the pupils—both boys and girls—have forgotten what they have been taught or have been so influenced by thriftless and dirty surroundings that they have neglected the common rules of healthy living, which in the long run are those which govern the health of young infants as much as that of their parents.

(2) Next in order of occurrence come all those agencies dealing with lads and girls, particularly such as deal with factory girls in clubs, evening classes, and in some cases in the works. These are most valuable, but unfortunately they are as yet voluntary, and as a result the careless and ignorant escape their influence.

It is possible to largely increase our work in the direction of more definite instruction to those who are to be the future mothers of the race, both during the school period and afterwards.

(3) Doctors and Midwives who are present at the birth of babies give directions as to their feeding and rearing.

So far as the midwives are concerned, there is very good control over this part of their work, for it is their duty, in accordance with the rules of the Central Midwives Board, to give the mother such instruction. In order that they may do so on good lines, a short booklet is supplied to midwives for distribution among their patients, and this they distribute regularly.

(4) Then there are the special organisations whose object is to deal with the question of the rearing of healthy infants and children. The child during its early years being entirely dependent on its parents or guardians, the problem largely resolves itself into dealing with the parents. To a lesser extent defects in housing, and the supply of food and air, influence the infant without in some cases the possibility of control by the parents.

Among these special agencies are the following:—

(1) *Health Visitors*.—In 1899 Birmingham first commenced the appointment of Health Visitors, and of these there are now 31, partly or wholly devoting their time to the visiting of homes where babies have recently been born, with a view to advising mothers on all matters relating to the health of their children. In connection with this work the Corporation employ two Lady Doctors, who hold consultations at six centres in the poor class areas of the City. These centres are appealing to the mothers with ever increasing force, and extremely satisfactory results may be expected. (See separate report on next page by Dr. Effie Craig.)

(2) *Voluntary Associations*.—Voluntary associations are doing for certain defined areas of the City similar work on excellent lines, employing both paid and voluntary visitors, and holding consultations and classes, which are largely attended.

(3) *Adult Societies*.—The subject of the prevention of infant mortality and of the healthy upbringing of young infants has been taken up by a large number of adult associations, and considerable progress is being made in the direction of educating those who attend.

The careless and ignorant mother may neglect much or all of the advice given her. She and her husband are the people who stay away from classes of all kinds, and it is she who is alone reached by the Health Visitor or voluntary visitor. The careful and interested mother has many opportunities of getting the necessary instruction, and very gladly takes advantage of it if it is of good quality.

It is a comparatively easy matter to instruct mothers of the intelligent class of artisans. It is, however, one of the most depressing of occupations to attempt to deal with the careless. The results are rapid and apparent in the first group. They are slow in coming and never very obvious in the second group. By continuous visiting and advice by the best type of visitor there is no doubt that good results are being obtained even among this unsatisfactory group.

The following is Dr. Craig's report :—

Sir,—I beg to submit a report on the work done in the promotion of Infant Health and in the prevention of Infant Mortality in the following areas :—St. George's and St. Stephen's, St. Martin's and Deritend, Duddeston and Nechells, and Ladywood and Market Hall.

At the beginning of 1914 there were four special consultation centres, with five infant visitors attached, in these areas.

These visitors visited the homes of babies within a week or a fortnight after birth. Advice was given to the mother as regards feeding, cleanliness, etc., and the mother was urged as soon as she was able to bring the baby to the nearest consultation for medical examination and advice.

It was found necessary to have more systematic work, especially in the following up of cases in their homes, to see that the advice given to the mothers at the consultation was carried out, and in the revisiting of mothers who were not attending regularly. For this purpose three additional Infant Visitors were appointed.

Infant consultations are held weekly in the Duddeston and Nechells, and the Ladywood and Market Hall areas. In St. George's and St. Stephen's, and St. Martin's and Deritend they are held twice a week. The babies are weighed, and special notes are taken as regards their condition and progress. Each new baby is thoroughly examined by the doctor attending the consultation, and advice is given to the mother as to the feeding, care and management of the child. It is generally recognised that good mothercraft is essential in the prevention of infant mortality. The mothers are told of the importance of breast feeding, and where the breast milk has not been quite sufficient the mother is instructed to give an additional feed of cow's milk or dried milk after each breast feed to make up the deficiency. For this purpose the use of dried milk has been very successful. It often happens that the breast milk is only deficient through the mother not getting sufficient nourishment or having much mental worry; with the improved health of the mother she is often able to stop the additional feeds and feed the child entirely on the breast.

In order to still further encourage breast feeding, certain poor nursing and pregnant mothers living in the St. George's and St. Stephen's, and St. Martin's and Deritend areas have been given free dinners.

When artificial feeding is necessary great care is taken to teach the mothers the importance of cleanliness.

Dirt, whether in the form of dirty bottles or dirty clothes still remains one of the chief factors in infant mortality. The mothers are taught how to prevent digestive disturbances by the proper modification and care of fresh cow's milk. Simple talks and demonstrations are given at the consultations, showing by simple models the best ways of covering the milk to prevent contamination either by dust or flies. In very dirty homes where it is found impossible to keep the milk pure dried milk has been used.

In the poor parts of the town the death-rate from pneumonia and bronchitis is high. This is a disease more prevalent in cities, and often comes on after a wetting or exposure to cold. Cold is regarded as one of the chief factors in lowering the resistance of the bronchial and pulmonary tissues. To try to lessen the frequency of this disease, an endeavour has been made to teach the mothers the importance of keeping the babies warm and dry. Also the importance of proper feeding so as to counteract any tendency to lowered vitality. Babies, especially at the teething stage, often "dribble" a great deal, and they are sometimes brought to the consultations soaking wet. The mothers are instructed as to the best means of keeping the babies dry. Special models of baby clothes are shown, and the importance of using flannel emphasised. In many cases the mothers have been overclothing the babies, and in order to make them really take an interest and understand, several competitions on the best way to clothe an infant have been given.

Summer diarrhœa is very prevalent, but it is generally recognised that it is also preventable.

In 1914, as in former years, steps were taken to prevent the occurrence of this disease, and when it had occurred to prevent its spread.

At the beginning of the hot season the Infant Visitors visited the homes and distributed pamphlets warning the mothers. Special post cards were printed and given in areas where it was thought likely the disease would spread. On receipt of these postcards the homes were again visited, advice given as to feeding, etc., and the mother advised to pay strict attention to cleanliness both in the home and in the yard. In spite of every precaution, however, 529 babies in the whole city died last year in Birmingham from infantile diarrhœal diseases.

The following table gives certain statistics relating to the work in the special areas during 1914 :—

	St. Martin's and Deritend Area.	Duddeston and Nechells Area.	St. George's and St. Stephen's Area.	Ladywood and Market Hall Area.	TOTAL.
Total number of births ... ..	1,312	1,497	1,478	1,241	5,528
Births attended by doctor ... ..	161	228	170	526	1,085
Births attended by doctor and midwife ... ..	52	37	33	15	137
Births attended by midwife only ... ..	1,003	1,126	1,109	637	3,875
Births in institutions ... ..	26	28	104	44	202
Illegitimate births per 1,000 ... ..	30	17	20	27	17
Excluded from subsequent visiting :—					
Still births ... ..	47	55	39	33	174
Better class houses ... ..	101	53	30	44	228
Wrong addresses ... ..	9	10	12	27	58
Dead at first visit ... ..	34	46	30	33	143
Mothers employed before confinement ... ..	513	477	692	457	2,139
Mothers not employed ... ..	799	1,020	786	784	3,389
Premature births among former, per 1,000 ... ..	49	73	47	55	104
Premature births among latter, per 1,000 ... ..	33	27	24	37	36



The following table gives the number of mothers who have attended the consultations and the number of attendances. These figures do not include a number of older children who have been brought to the consultation for examination :—

	St. Martin's and Deritend Centre.	Duddeston and Nechells Centre.	St. George's and St. Stephen's Centre.	Ladywood and Market Hall Centre.	TOTAL.
Mothers who have attended infant consultations...	737	320	615	488	2,160
Total number of attendances ... ..	2,517	980	2,067	1,695	7,259

The following are the statistics in regard to children born during the year 1913, and who at the end of 1914 had been kept under observation for a whole year, or till the time of their death :—

	St. Martin's and Deritend Area.	Duddeston and Nechells Area.	St. George's and St. Stephen's Area.	TOTAL.
Total number of children born alive ... ..	1,250	1,546	1,440	4,236
Excluded from subsequent visiting :—				
Better class houses ... ..	94	43	22	159
Lost sight of during the year due to removal from district ... ..	91	285	284	660
Wrong addresses ... ..	6	9	22	37
Still-births ... ..	42	44	67	153
Children kept under observation ... ..	1,059	1,209	1,112	3,380
Number of deaths of children kept under observation ...	197	243	239	679

The following shows the way in which the babies who died before they were six months old were fed :—

	St. Martin's and Deritend Area.	Duddeston and Nechells Area.	St. George's and St. Stephen's Area.	TOTAL.
Number of babies who died under six months ... ..	138	188	177	503
Breast fed ... ..	49	82	76	207
Artificially fed either partially or entirely ... ..	89	106	101	296

The following are the chief causes of death of the infants living in the four areas under observation :—

	St. Martin's and Deritend Area.	Duddeston and Nechells Area.	St. George's and St. Stephen's Area.	Ladywood and Market Hall Area.	TOTAL.
Prematurity and congenital defects ... ..	32	36	35	48	151
Debility ... ..	15	27	14	19	75
Marasmus ... ..	20	16	21	16	73
Bronchitis and pneumonia ... ..	31	49	38	37	155
Diarrhœa and enteritis ... ..	29	60	64	25	178
Whooping cough ... ..	6	13	11	7	37
Measles ... ..	3	2	5	6	16
Intestinal tuberculosis ... ..	4	10	3	3	20
Overlying or accidental suffocation ... ..	14	7	11	11	43

Your obedient servant,

EFFIE M. D. CRAIG.

## FEEDING OF EXPECTANT AND NURSING MOTHERS.

Three small voluntary societies have undertaken to provide a substantial and suitable dinner for expectant and nursing mothers who were found by the Health Visitors or other ladies to be insufficiently fed during the winter months. The work was commenced by each society with a good deal of hesitation as to whether such a charity was really on sound lines, and as to whether the feeding of these women was not doing real harm in taking away the responsibility from the woman's husband of providing for her.

All of those who have been in intimate contact with the women themselves and their home conditions, and have been able to see the effect of the feeding on both mother and child, have no doubt whatever about the value of the work as seen in the physical improvement of the mother and child, and in return of self-respect shown by most of them as a result of contact with educated workers.

Two general types of case form the majority of those relieved:—

- (a) Women with sick husbands who struggle to keep away from Parish Relief, and
- (b) Women with idle, drunken, or work-shy husbands.

The majority of the women have large families. Fifty-six women attending at one of the centres had given birth to an average of six infants each. Two of these had had 12 children each and two 11 each. At another Centre the average was five babies to each mother.

In many cases not all of these babies have survived, but it is a fact that the size of the family greatly influenced the necessity for feeding, for it has been found almost universally that when food is scarce a mother gives it to her husband because he has to work, and to her children, and scrimps herself to such an extent that one can notice the effect of the underfeeding, and more especially the good effect on the starving mother of the dinners provided.

Of the husbands who were not absolutely bad several were deaf or blind or crippled, or maimed in other ways, so as to be incapable of competing with men in the open labour market. A considerable group consisted of casual labourers, hawkers, street porters, who appeared to have no vice other than that of being incapable of obtaining remunerative steady work.

Many women were fed because they were underfed as a direct result of having vicious or drunken husbands, and most of these were quite good mothers—women whose lot was a particularly unfortunate one, because with their large families it was quite impossible for them to do anything for themselves.

During the winter of 1914-15 the number of meals provided for expectant and nursing mothers were as follows:—

Centre A	Centre B	Centre C
3,227	3,388	1,800

Each meal consisted of a dinner of two courses, the cost per head for food only being from 2½d. to 3¼d. per meal at the Centres respectively.

In most instances the mother paid 1d. each for the dinner. This charge, however, had to be remitted where the poverty was great.

It is almost needless to add that the amount consumed by these hungry mothers at each meal was considerable, for with a good many very little food was eaten at home.

The duration of the feeding varied from a few days to six months. A pleasing feature was that in most instances the women immediately ceased attending whenever they were able to provide for themselves. A good many came and paid up arrears of pennies when they had the money, and were profuse in their thanks for what had been done for them.

The effect of the feeding on the mother herself was as definite and satisfactory as could be desired. Women who looked haggard and worn assumed a plump and happy expression. No weighings were carried out during 1914, but in former years definite gain in weight was shown to result from this one meal per diem. The women themselves appreciated their improvement in health, and frequently referred to the absence of headache and the feeling of better health. The most important effect, however, was that in the case of nursing mothers they were enabled to nurse their own babies in a way that they would probably not have been able to do without the food. Several mothers asserted that they had not previously nursed their infants, but had done so this time. This testimony was so general that it probably correctly represents the effect on the mother.

The effect on the infant was equally satisfactory. One mother who had been fed before the birth of her baby came to say that the baby was so big when it was born that she was not in future coming for the dinners before her infant arrived. The majority of the infants show the good effect of maternal feeding in losing their crossness and putting on flesh.

#### GOVERNMENT GRANTS.

Government grants in aid of work having for its objects the improvement in the health of infants and children, and for preventing mortality, have been given to the City Council and a number of voluntary societies during the year 1914, and these have been a great stimulus to getting more and better work done.

Grants have been made in Birmingham for certain of this work by the Local Government Board through or to the Public Health Committee, while in other cases for precisely the same type of work (work which has exactly the same object in view) grants have been made direct to local associations by the Board of Education. The result may be very considerable confusion and overlapping. It would appear that all such grants should come through one local channel, so that expenditure of public money may in some way be controlled with a view to prevent overlapping.

#### INFECTIOUS DISEASES.

The deaths during the year from certain of the more important infectious diseases are set out in the statement below:—

DISEASE.	Deaths in 1914.	Average 1904-13.	Above or below the average.
Enteric Fever ... ..	16	45	- 29
Smallpox ... ..	0	0	—
Measles ... ..	310	338	- 28
Scarlet Fever ... ..	148	114	+ 34
Whooping Cough ... ..	309	289	+ 20
Diphtheria ... ..	260	142	+118
Diarrhœa and Enteritis ... ..	767	887	-120
Pulmonary Tuberculosis ... ..	1,059	983	+ 76
Other Forms of Tuberculosis ... ..	234	289	- 55

The prevalence of the chief notifiable diseases is shown in the next table:—

DISEASE.	Cases in 1914.	Average 1904-13.	Above or below the average.
Enteric Fever ... ..	67	220	- 153
Smallpox ... ..	0	6	- 6
Scarlet Fever ... ..	6,764	4,234	+2,530
Diphtheria ... ..	1,623	1,086	+ 537
Erysipelas ... ..	883	789	+ 94
Pulmonary Tuberculosis ... ..	3,317	—	—
Other forms of Tuberculosis ... ..	498	—	—
Puerperal Fever ... ..	149	56	+ 93
Ophthalmia Neonatorum ... ..	395	—	—
Cerebro-Spinal Fever ... ..	10	—	—
Acute Poliomyelitis ... ..	16	—	—

In addition to the above, the following cases were reported by the elementary school teachers:—

	1914.	1913.
Measles ... ..	4,612	3,661
German Measles ... ..	61	85
Whooping Cough ... ..	4,381	2,638
Chicken Pox ... ..	2,973	2,422
Mumps ... ..	2,285	4,253

#### ENTERIC FEVER.

This disease, which once caused an immense amount of serious illness, with sometimes as many as 100 deaths in a year, and with a very considerable amount of expense on account of the long and serious illness, has now become for the municipality one of relatively little importance.

There were 67 new cases of the disease notified. From the following table it will be seen that we have never before had so few cases, and also that the decline has been a progressive one. The number of cases thirteen years ago was twelve and a half times as large.

	Cases.		Deaths.		Death-rate for England and Wales.
	No.	Rate.	No.	Rate.	
1901 ... ..	842	1·11	133	·18	·15
1902 ... ..	718	·92	133	·17	·13
1903 ... ..	517	·67	81	·10	·10
1904 ... ..	350	·45	59	·08	·09
1905 ... ..	292	·37	51	·06	·09
1906 ... ..	286	·36	55	·07	·09
1907 ... ..	360	·45	76	·09	·07
1908 ... ..	261	·32	61	·07	·07
1909 ... ..	179	·22	33	·04	·06
1910 ... ..	122	·15	31	·04	·05
1911 ... ..	148	·18	35	·04	·07
1912 ... ..	102	·12	30	·04	·04
1913 ... ..	102	·12	20	·02	·04
1914 ... ..	67	·08	16	·02	·05

In England and Wales the incidence rate for 1914 was 0·24 per 1,000. In the eighty great towns the incidence rate was 0·24.

The decline in enteric fever has corresponded closely with (1) the abolition of the pail closet system; (2) the provision of ashbins for refuse instead of middens; (3) the prevention of the importation of mussels from infected sources.

Recently regulations of the Local Government Board have been issued prohibiting the sale of shell fish likely to cause danger to public health. These possibly may be of use occasionally, but they will be difficult of operation, and in the majority of instances not very helpful, in preventing disease due to imported shell fish. The chief defect in these regulations is that one has to wait for disease arising before anything can be done.

#### SMALLPOX.

During 1914 there was no case of Smallpox reported in the City. Several doubtful cases were reported by medical practitioners to the Medical Officer of Health, but none of these proved to be true smallpox.

During the year there were 65 cases notified in England and Wales in 23 different sanitary districts, and there were 7 cases taken from ships arriving in port.

During the year under review the following report was made on the Smallpox Hospital accommodation:—

PUBLIC HEALTH AND HOUSING DEPARTMENT,  
THE COUNCIL HOUSE, BIRMINGHAM,  
January 4th, 1915.

TO THE CHAIRMAN AND MEMBERS OF THE PUBLIC HEALTH SUB-COMMITTEE.

Gentlemen,

SMALLPOX HOSPITAL EXTENSION.

Minute 1406, June 18th, 1914.—“Resolved.—That the Medical Officer of Health report fully on the need for extension, and that a special meeting of the Sub-Committee be held to further consider the question.”

Minute 2610, September 10th, 1914.—Circular letter submitted from the Local Government Board, dated August 28th, 1914, directing attention to the importance of local authorities having in readiness adequate means for dealing with smallpox. “Resolved.—That it be referred to the Medical Officer of Health.”

I need not detail the steps which led up to the abandonment of the Yardley Road site for smallpox in favour of the one at Witton further than to say that there was accommodation of an efficient character at Yardley Road for 120 smallpox patients, and ample contact accommodation. The site, however, was undoubtedly a dangerous one. I believe that cases of the disease had spread to the neighbourhood from this hospital, and, in my opinion, such occurrences would now be more frequent if the buildings at Yardley Road were used for smallpox, in view of the fact that the surrounding land is being developed for residential property.

The Witton Smallpox Hospital consists of :—

(a) Administrative block, containing two sitting rooms, dispensary, waiting room, kitchen accommodation, and seven bedrooms.

(b) A laundry, disinfecting apparatus, and stable.

(c) A ward block for 20 patients.

(d) An observation block, containing two wards, each with accommodation for two beds.

All the buildings at Witton are new and in good condition, and the site is probably the best that could be obtained anywhere within a similar distance from the City. This hospital was erected by the Aston Town Council for the use of the inhabitants of Aston Manor, with an area of 943 acres and a population of 77,000. An agreement was entered into between Aston Manor and Sutton Coldfield, Erdington, and Castle Bromwich, for the reception of cases of smallpox, the population of these three areas being at the time of the agreement 33,375. Approximately, the hospital was erected for a population of 110,000 people. The present population in Birmingham is estimated to be 868,430.

The chief defects in the Witton Smallpox Hospital are :—

(a) That the accommodation is insufficient in amount to deal with the number of cases which may reasonably be expected during the early stages of an outbreak.

(b) There is no proper accommodation in Birmingham at present for those who have been in contact with the disease.

I have recommended :—

(1) That the accommodation be increased to 84 beds, and that 60 of these beds be made use of for the treatment of scarlet fever cases or cases of epidemic summer diarrhoea.

(2) That accommodation be provided for the whole staff necessary at this hospital, which would allow of a resident medical officer when smallpox is prevalent.

(3) That reasonably comfortable accommodation for male and female contacts be provided on the land adjoining the hospital, and that such accommodation should be controlled from the hospital.

I feel quite strongly that the position in Birmingham will be a dangerous one if smallpox should become prevalent while the present arrangements exist. My own experience in a large number of outbreaks is that smallpox is one of the most satisfactory diseases to prevent, provided adequate hospital and contact accommodation are available.

In suggesting so small a number of beds as 84, I have had in view the recent history of smallpox in England and Wales, and that relatively there is not any very large direct communication between Birmingham and shipping ports, and also that the materials we import are unlikely to convey infection.

Alternative suggestions have been made so as to avoid capital expenditure on buildings. One of these suggestions is that the present Witton Fever Hospital might be used as an overflow hospital for smallpox as soon as the smallpox hospital proper is full, and that the buildings on what is known as the one-acre site might be used for the accommodation of contacts. If each of these sets of buildings were complete and good in itself, I still think there would be so much danger of infection leaking out from want of efficient control that I could not recommend this suggestion. The fever hospital and the buildings on the one-acre site are entirely unsuitable for smallpox work. A good deal of the fever hospital is in a dilapidated condition, without proper nursing accommodation, and without any accommodation for a doctor. It has no discharging block or proper observation accommodation, and one part of it is dangerously near to two new dwelling houses. I think it is probable that the Local Government Board would not sanction a loan for making the Witton Fever Hospital efficient if it were intended to be used definitely for the treatment of smallpox. It is impossible to use the buildings on the one-acre site for the contacts. They would have to be rebuilt, and the site walled round.

Apart altogether from the provision of smallpox accommodation in Birmingham, there is a growing need for more hospital accommodation for ordinary infectious diseases. On the occasion of the extension of the boundaries of Birmingham, the existing fever hospital accommodation was reduced by:—

- (1) The abandonment of the insanitary hospital at Lyndon End;
- (2) By ceasing to occupy beds at the West Bromwich Fever Hospital;
- (3) By setting aside further accommodation at West Heath for phthisis.

Altogether this amounted to 75 beds. Notwithstanding the diminution in hospital accommodation, the population of the City increases at the rate of about 9,000 per annum.

Your Sub-Committee will remember also that two of the ward blocks at Witton Fever Hospital will have to be demolished at an early date, as the woodwork is rotten. I think, therefore, that we need for Birmingham fever cases both the additional 60 beds at the Witton Smallpox Hospital and all of the beds at the Witton Fever Hospital, when they are put into a sanitary state.

To put the above suggestions into practical shape, Mr. Osborne, Architect, was asked to get out preliminary plans and a rough estimate.\* The plans show:—

1. Three 20-bedded wards, all of which could be used for other infectious diseases, at an approximate cost of ... ..	£ 6,500
(Equal to £110 per bed.)	
2. Alteration and addition to the existing administrative block, so as to provide proper accommodation for resident doctor, and twenty female staff, together with the necessary dining rooms, kitchen, larders, etc. ... ..	4,000
(Equal to £190 per bed.)	
3. A contact block, having accommodation for six separate men's cubicles and six separate women's cubicles, with the necessary day rooms and attendants' quarters ...	2,700
4. A porter's lodge controlling the entrance to both the smallpox hospital and the contact blocks ... ..	500
5. A discharging block, so that patients may be properly disinfected before being sent out ... ..	220
6. Walls, fences, and drains ... ..	580
TOTAL ... ..	£14,500

\* The estimate was given several months ago.

To the above would have to be added the cost of furnishing and architect's fees, say, £2,000.

If a loan were obtained for thirty years on the buildings and ten years on the furniture, the capital charges would amount to about £1,028 per annum.

If such buildings as have been suggested above be erected we should be immediately in a safe position so far as smallpox was concerned, and we would also have good accommodation for sixty or more patients suffering from other diseases (when smallpox was not prevalent) in a hospital that could be properly administered. I think it is probable that this new accommodation would never be entirely unused. It is not necessary to keep a staff for smallpox alone. At the present time we arrange that a certain number of nurses and maids shall be ready for smallpox duty in a properly vaccinated condition. This arrangement will continue, so that when there is no smallpox the staff will be employed on other infectious diseases.

The second resolution deals with the recent memorandum of the Local Government Board, and draws attention to the possibility of smallpox being introduced and to our being ready to meet such an occurrence. It has been my custom for a number of years to look periodically into the state of efficiency of the arrangements dealing with smallpox. I did this in July last, and apart from the fact that our present accommodation is inadequate and bad, we have a staff ready at short notice to deal with the disease.

I am, Mr. Chairman and Gentlemen,

Your obedient servant,

JOHN ROBERTSON,

*Medical Officer of Health.*

Owing to the outbreak of war the consideration of this report was postponed.

#### VACCINATION.

The following statement shows the amount of vaccination performed in regard to infants whose births were registered during the year ending June 30th, 1914:—

Births returned ... ..	23,322
Conscientious objections... ..	3,253, or 13·9% of total.
Died unvaccinated ... ..	2,204
Successfully vaccinated ... ..	15,068, or 71·3% of survivors.
Insusceptible ... ..	44, or 0·2% ,,
Postponed by medical certificate ... ..	426, or 2·0% ,,
Removed to other districts ... ..	203, or 1·0% ,,
Lost sight of ... ..	1,475, or 7·0% ,,
Still under notice ... ..	649, or 3·1% ,,

## MEASLES.

There were 310 deaths from measles, as compared with 398 in the previous year. The cases of the disease reported by the school teachers numbered 4,612.

The deaths occurring during the past fourteen years in the Greater Birmingham area are set out in the following table, together with the comparative mortality rates for England and Wales :—

				Birmingham.		England and Wales.	
				Deaths.	Rate per 1,000.	Death-Rate per 1,000.	
1901	...	...	...	372	·49	...	·28
1902	...	...	...	237	·31	...	·39
1903	...	...	...	245	·32	...	·27
1904	...	...	...	243	·31	...	·36
1905	...	...	...	300	·38	...	·33
1906	...	...	...	275	·34	...	·27
1907	...	...	...	409	·51	...	·36
1908	...	...	...	70	·08	...	·23
1909	...	...	...	676	·82	...	·36
1910	...	...	...	42	·05	...	·23
1911	...	...	...	395	·47	...	·36
1912	...	...	...	571	·67	...	·35
1913	...	...	...	398	·46	...	·28
1914	...	...	...	310	·35	...	·24

As in former years, the deaths occurred mainly in very young children.

Under 1 year	...	...	...	...	...	50
1 and under 2 years	...	...	...	...	...	122
2	„	3	„	...	...	68
3	„	4	„	...	...	29
4	„	5	„	...	...	14
5 years and over	...	...	...	...	...	27
<hr/>						
310						

The distribution of deaths in 1914 was as shown below :—

				Rate per 1,000.			
Central Wards	...	St. Paul's	...	...	1·11	Average	·82
		St. Mary's	...	...	1·04		
		Duddeston and Nechells	...	...	·70		
		St. Bartholomew's	...	...	·64		
		St. Martin's and Deritend	...	...	·58		
		Market Hall	...	...	·53		
		Ladywood	...	...	1·13		
Middle Ring	...	Lozells	...	...	·43	Average	·27
		Aston	...	...	·55		
		Washwood Heath	...	...	·21		
		Saltley	...	...	·18		
		Small Heath	...	...	·31		
		Sparkbrook	...	...	·08		
		Balsall Heath	...	...	·10		
		Edgbaston	...	...	·06		
		Rotton Park	...	...	·45		
All Saints'	...	...	·32				
Outer Ring	...	Soho	...	...	·11	Average	·08
		Sandwell	...	...	·11		
		Handsworth	...	...	·04		
		Erdington North	...	...	·19		
		Erdington South	...	...	·11		
		Yardley...	...	...	·18		
		Acock's Green	...	...	·15		
		Sparkhill	...	...	—		
		Moscley and King's Heath	...	...	—		
		Selly Oak	...	...	—		
King's Norton	...	...	·18				
Northfield	...	...	—				
Harborne	...	...	—				

Two very important additional methods of dealing with these recurring outbreaks of measles were introduced during 1914.

(1) It is of the greatest importance to get early information of the occurrence of a case of measles in a poor class dwelling, so that at the earliest opportunity instructions may be given about how the patient may best be dealt with to prevent a fatal result. It has been found in practice that notification under the Infectious Disease (Notification) Act is of little value for this purpose, as the majority of the cases do not receive the attention of any medical practitioner. In those cases where a doctor is called in it is usually too late to be of real help, as already complications such as acute bronchitis or broncho-pneumonia have made their appearance.

The Public Health and Housing Committee therefore took the opportunity of obtaining special power to require the head of the household to report the occurrence of infection to the head teacher of the school which any child from an infected house is attending.

The clause is as follows :—

“BIRMINGHAM CORPORATION ACT, 1914, SECTION 24.

“(1) Any parent or guardian having personal charge of a child in attendance at a school who is aware of or has reason to suspect the occurrence of any infectious disease in any member of the family and who fails forthwith to notify such occurrence to the head teacher of the school shall be liable to a penalty not exceeding twenty shillings.

“(2) If any person not less than sixteen years of age while suffering from any infectious disease wilfully exposes himself without proper precautions against spreading the disease in any street, public place, shop, inn, or any public conveyance, or being in charge of any person so suffering, wilfully exposes such sufferer, he shall be liable to a penalty not exceeding five pounds.

“(3) (a) The Corporation shall cause to be given public notice of the effect of the provisions of this section by advertisement in two newspapers published or circulating in the city, and by handbills or otherwise, in such manner as they think sufficient, and this section shall come into operation at such time, not being less than one month after the first publication of such advertisement as aforesaid, as the Corporation may fix.

“(b) Copies of the newspapers containing the advertisements shall be sufficient evidence that the provisions of this sub-section have been complied with.

“(4) The provisions of this section shall cease to be in force at the expiration of five years from the date of the passing of this Act, unless they shall have been continued by Act of Parliament or by an order made by the Local Government Board, which order the Local Government Board are hereby empowered to make.

“(5) In this section the expression ‘infectious disease’ includes measles, German measles, whooping cough, and chicken pox.”

It is hoped that in time this will give us early notification of the occurrence of nearly all cases of measles and other diseases.

(2) An experiment was authorised towards the end of 1914 of employing the services of skilled nurses from The District Nursing Society to do what was necessary in nursing the children of parents in poor districts who were suffering from severe measles. The names of these cases were sent to the nurses by the Health Visitors.

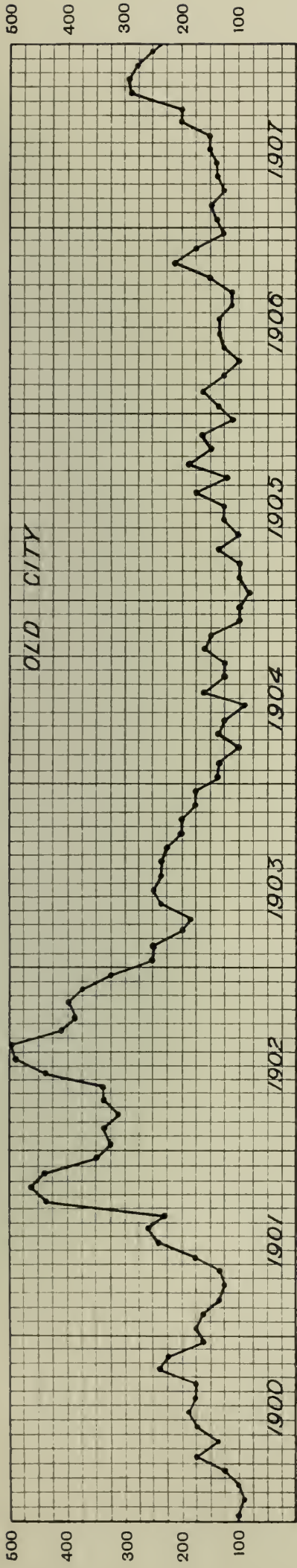
It is impossible to say what might have occurred had they not been employed, but there seems to be little doubt but that the mortality would have been higher in the special areas where the nurses worked had they not been employed.

#### SCARLET FEVER.

There were 6,764 cases of scarlet fever notified in 1914 and 148 deaths, giving a fatality rate of 2.19%.

At the end of 1914 the epidemic diminished to such an extent that it can fairly be said to have terminated. The chart on the opposite page shows better than any description the occurrence of scarlet fever prevalence in Birmingham since 1900. It will be seen that during part of 1901, during the whole of 1902, and during part of 1903 scarlet fever was severely prevalent, the duration of the





CASES OF SCARLET FEVER IN FOUR WEEK PERIODS.  
EXTENDED CITY SINCE 1912.



epidemic being about two-and-a-half years. Then there was an interval of eight-and-a-half years with here and there comparatively slight autumnal increases, followed by another epidemic lasting nearly two-and-a-half years.

Prior to these two epidemics there was quite a definite recrudescence in Birmingham at intervals of six or seven years. This recrudescence was so regular that formerly it was looked for and seldom failed.

The cases and deaths during each year since 1901 are set out in the following table :—

SCARLET FEVER CASES AND DEATHS.

	Cases.		Fatality Rate per cent.	Deaths.		Death-Rate for England and Wales.
	No.	Rate.		No.	Rate.	
1901	4,309	5.68	4.13	178	.23	.13
1902	6,617	8.52	5.10	337	.43	.15
1903	4,246	5.48	4.62	196	.25	.12
1904	2,648	3.38	3.17	84	.11	.11
1905	2,372	3.00	2.77	66	.08	.11
1906	2,803	3.51	2.57	72	.09	.10
1907	3,854	4.77	3.09	119	.15	.09
1908	4,004	4.85	3.05	122	.15	.08
1909	4,797	5.82	3.06	147	.18	.09
1910	4,324	5.20	2.73	118	.14	.07
1911	3,587	4.27	2.29	82	.10	.05
1912	5,505	6.49	2.78	153	.18	.05
1913	8,447	9.67	2.12	179	.20	.06
1914	6,764	7.69	2.19	148	.17	.08

The distribution of cases in Birmingham in 1914 is shown below.

Central Wards	St. Paul's	...	...	...	...	5.3	Average 6.0
	St. Mary's	...	...	...	...	6.9	
	Duddeston and Nechells	...	...	...	...	5.8	
	St. Bartholomew's	...	...	...	...	8.5	
	St. Martin's and Deritend	...	...	...	...	6.7	
	Market Hall	...	...	...	...	4.6	
	Ladywood	...	...	...	...	4.5	
Middle Ring	Lozells	...	...	...	...	7.2	Average 8.1
	Aston	...	...	...	...	7.2	
	Washwood Heath	...	...	...	...	7.2	
	Saltley	...	...	...	...	10.1	
	Small Heath	...	...	...	...	14.4	
	Sparkbrook	...	...	...	...	9.6	
	Balsall Heath	...	...	...	...	6.5	
	Edgbaston	...	...	...	...	3.6	
	Rotton Park	...	...	...	...	7.8	
All Saints'	...	...	...	...	7.2		
Outer Ring	Soho	...	...	...	...	7.6	Average 9.1
	Sandwell	...	...	...	...	9.1	
	Handsworth	...	...	...	...	7.0	
	Erdington North	...	...	...	...	9.3	
	Erdington South	...	...	...	...	9.7	
	Yardley	...	...	...	...	7.7	
	Acock's Green	...	...	...	...	8.7	
	Sparkhill	...	...	...	...	6.2	
	Moseley and King's Heath	...	...	...	...	5.1	
	Selly Oak	...	...	...	...	11.0	
	King's Norton	...	...	...	...	11.1	
Northfield	...	...	...	...	20.2		
Harborne	...	...	...	...	5.9		

The age incidence and fatality was as follows:—

SCARLET FEVER CASES AND DEATHS.

	Cases Notified.	Deaths Registered.	Percentage of Deaths to Cases.	
			1914.	1913.
Under 1 year ...	60	1	1·7	13·1
1 to 2 years ...	173	13	7·5	9·1
2 to 3 „ ...	362	26	7·2	6·2
3 to 4 „ ...	485	31	6·4	5·2
4 to 5 „ ...	552	17	3·1	4·0
5 to 10 „ ...	2,901	40	1·4	1·1
10 to 15 „ ...	1,229	8	0·7	0·5
Over 15 „ ...	1,002	12	1·2	1·1
All ages ...	6,764	148	2·2	2·1

As in the case of measles, it will be noted that the fatality rate is much higher for ages 0 to 4 than for ages above 4.

*Fatality.*—The epidemic was a mild one (see table page 27); indeed this has probably been one of the main reasons why it has been so difficult to check. It is also the reason why in about nine cases out of ten it was impossible to connect the cases with previously notified cases. It is further probable that a very much larger number of cases have occurred than have been reported—cases so mild that they have entirely escaped notice.

During 1912, when the present epidemic was commencing, the fatality rate was 2·78, while during 1913 and 1914 it fell to 2·12 and 2·19.

*Hospital Treatment.*—There were 4,777 cases removed to the Infectious Diseases Hospitals, with a fatality rate of 2·4%, while 1,987 cases were nursed at home with a rate of 1·7%. The figures for 1913 were almost identical. Generally speaking, the more severe cases of infectious disease were removed, while mild cases not requiring special nursing were more frequently nursed at home.

Enquiry has been made during the year as to the occurrence of secondary cases of scarlet fever, where the first case was removed to hospital and where it was nursed at home.

Excluding those in public institutions there were 5,469 primary cases during the year, which were followed by 1,127 secondary cases, *i.e.*, further cases occurring in the same house not less than three days after the first case nor more than twenty-eight days after its return from hospital or release from isolation.

In the houses from which the primary cases were removed there were 16,384 other inmates left, and of these 838 developed scarlet fever. This is equal to 5·1 per cent. of secondary cases.

Where the first case remained at home there were 6,283 other inmates, and of these 289, or 4·6 per cent., took scarlet fever.

The system followed in Birmingham is to remove a case of scarlet fever if reasonably good isolation cannot be carried out at home, but not otherwise; and it appears that under this system the percentage of secondary cases was very similar whether the primary case was removed or not.

*Complications of Scarlet Fever.*—Some idea of the nature and the number of the complications of scarlet fever cases during 1914 will be found in the hospital reports. (See page 78).

*Return cases of Scarlet Fever.*—Each year for a number of years carefully prepared figures have been given in regard to the occurrence of return cases. The definition of a “*return case*” was given last year in the annual report as well as in previous reports as a case occurring in a house within twenty-eight days of the return from hospital or the release from isolation of an “*infecting case*.”

TABLE SHOWING RETURN CASES OF SCARLET FEVER.

Year.	Notified Cases.	Return Cases.	Percentage of Return Cases.	Infecting Cases.
1908 ... ..	2,275	105	4.6	75
1909 ... ..	2,871	114	4.0	101
1910 ... ..	2,709	133	4.9	120
1911 ... ..	2,258	142	6.3	110
1912* ... ..	5,505	304	5.5	248
1913* ... ..	8,447	449	5.3	354
1914* ... ..	6,764	402	5.9	314

\* Extended City.

It has been shown in previous years that the percentage of return cases is greater in proportion to the length of stay in the hospital of the “*infecting cases*.” In 1913 this varied from 3.1% in the case of “*infecting cases*” discharged after three or four weeks to 12% in the case of “*infecting cases*” kept in the hospital for over twelve weeks. The obvious explanation of this apparent anomaly is that patients are kept in hospital for long periods because of infectious discharges from the ear or nose. When such cases are sent home they are very apt to have a return of the discharge, which is often highly infectious.

No hospital was free from return cases during 1914, the number of cases being as follows, based on admissions:—

Hospital.	Admissions.	Return Cases.	Percentage of Return Cases.
Little Bronwich ... ..	3,182	218	6.9
Lodge Road ... ..	772	54	7.0
West Heath ... ..	281	46	16.4
Witton ... ..	724	59	8.1

No amount of care on the part of the medical or nursing staff seems to prevent these very distressing cases. In practice every patient before being discharged from a Fever Hospital is examined medically three times immediately prior to discharge to ensure freedom from conditions which might carry infection. Again and again patients are put back on account of some trivial condition which might be infective. At one time it was the custom to put all patients who were about to be discharged in a “*clean*” ward (a ward free from any infection) for a week or ten days prior to discharge, but no material results followed.

Each patient is examined medically immediately prior to discharge, and after the final bath is given. In some cases the patient immediately on his return home infects others, while in many an interval of a week or two elapses before he infects other susceptible people with whom he comes in contact.

In several instances the infection apparently carried out of the hospital has caused cases of scarlet fever of a severe or fatal type.

### WHOOPIING COUGH.

This disease caused the deaths of 309 young children during 1914, as compared with 163 in 1913. The mortality in each of the previous years since 1901 is set out in the accompanying table:—

## MORTALITY FROM WHOOPING COUGH.

				Deaths in Birmingham.		Death-rate in		
				Number.	Rate.	England and Wales.		
1901	...	...	...	299	...	·39	...	·31
1902	...	...	...	363	...	·47	...	·30
1903	...	...	...	127	...	·16	...	·29
1904	...	...	...	585	...	·75	...	·35
1905	...	...	...	206	...	·26	...	·26
1906	...	...	...	350	...	·44	...	·24
1907	...	...	...	244	...	·30	...	·30
1908	...	...	...	406	...	·49	...	·28
1909	...	...	...	188	...	·23	...	·20
1910	...	...	...	283	...	·34	...	·25
1911	...	...	...	139	...	·17	...	·21
1912	...	...	...	331	...	·39	...	·23
1913	...	...	...	163	...	·19	...	·14
1914	...	...	...	309	...	·35	...	·21

The age at death of these patients was as follows:—

Under 1 year	...	...	...	...	...	141	deaths.
1 and under 2 years	...	...	...	...	...	95	”
2	”	3	”	...	...	40	”
3	”	4	”	...	...	16	”
4	”	5	”	...	...	11	”
All over 5 years	...	...	...	...	...	6	”

The important point in these figures is that the disease is very fatal among infants under one year and less fatal during each subsequent year. It is seldom that a death occurs at 10 years or over.

No less than 4,381 cases were reported by school teachers. Each of them was visited by the Health Visitors with a view to limiting the spread of infection and also to instruct the mother what best to do in regard to the nursing and care of the little patient.

As is the case with measles, this disease has in a city like Birmingham a periodicity of two years.

## DIPHTHERIA AND CROUP.

During 1914 there were 1,623 persons attacked by diphtheria, and 260 deaths from the disease. This is by far the largest number of cases since our records commenced, and the mortality rate is a high one, being 16·0 per cent. These figures relate to true cases of diphtheria, after making allowance for revisions of diagnosis.

The following table gives the main facts in regard to diphtheria prevalence in Birmingham so far as they are ascertainable.

## DIPHTHERIA AND CROUP IN BIRMINGHAM.

	Cases Notified.	Case-Rate per 1,000 of Population.	Deaths.	Death-Rate per 1,000.	Fatality Rate per cent.
1871	—	—	165	·48	—
1872	—	—	178	·51	—
1873	—	—	217	·60	—
1874	—	—	158	·44	—
1875	—	—	142	·39	—
1876	—	—	131	·35	—
1877	—	—	136	·36	—
1878	—	—	164	·43	—





SICKNESS RATES FROM DIPHTHERIA IN 1914.

Under 1.5 per 1,000	...	...	Light.
1.5 and under 2.5	...	...	Medium.
2.5 and over	...	...	Dark.



DIPHTHERIA AND CROUP IN BIRMINGHAM—*continued.*

	Cases Notified.	Case-Rate per 1,000 of Population.	Deaths.	Death-Rate per 1,000.	Fatality Rate per cent.
1879	—	—	166	.42	—
1880	—	—	131	.33	—
1881	—	—	131	.33	—
1882	—	—	124	.31	—
1883	—	—	125	.31	—
1884	—	—	113	.27	—
1885	—	—	116	.28	—
1886	—	—	195	.47	—
1887	—	—	150	.36	—
1888	—	—	105	.25	—
1889	—	—	111	.26	—
1890	283*	0.69	123	.28	43
1891	205	0.48	59	.14	29
1892	533	1.10	115	.24	22
1893	387	0.79	98	.20	25
1894	406	0.83	108	.22	27
1895	741	1.50	219	.44	30
1896	1194	2.35	312	.61	26
1897	713	1.41	171	.34	24
1898	689	1.36	139	.27	20
1899	720	1.40	149	.29	21
1900	542	1.05	86	.17	16
1901	789†	1.04†	125†	.16†	16†
1902	1118	1.44	189	.24	17
1903	1176	1.52	176	.23	15
1904	902	1.15	167	.21	19
1905	972	1.23	136	.17	14
1906	1165	1.46	138	.17	12
1907	1459	1.81	159	.20	11
1908	1229	1.49	168	.20	14
1909	1136	1.38	167	.20	15
1910	1063	1.28	112	.13	11
1911	1134	1.35	112	.13	10
1912	807	.95	101	.12	13
1913	991	1.13	169	.19	17
1914	1623	1.84	260	.30	16

\* Notification became compulsory on January 20th, 1890.

† The figures from 1901 onwards relate to Greater Birmingham.

NOTE.—In recent years the cases have been revised as far as possible to exclude errors in diagnosis.

For the first period in the table it will be seen that deaths and death-rates only are recorded. In 1890 the Infectious Disease (Notification) Act came into force, and since then it has been possible to put in the table the number of notified cases, the incidence rate per 1,000 of the population, the deaths and death-rate, and the percentage fatality rate. These figures are available for the Greater Birmingham area since 1901, and they are, therefore, included. By doing so the incidence rate is increased; for instance, last year the incidence of diphtheria in the old area of the City was 1.57 while in the extended area it was 1.84.

It will be noted from the figures that the mortality rate per 1,000 of the population in 1914 was .30. In 1899, almost the same mortality-rate occurred, while in 1895, 1896, and 1897, a considerably higher rate was noted.

The skeleton map opposite indicates the distribution of the new cases of Diphtheria in the City during the year. The figures represent the number of notified cases per 1,000 of the population in each ward. The three shades of colour represent rates of (1) under 1.5 per 1,000; (2) between 1.5 per 1,000 and 2.5 per 1,000, and (3) over 2.5 per 1,000.

A similar indication of the distribution of diphtheria cases is given in the following figures, which show for each group of wards the population, the number of notified cases, and the case rate for 1914, together with the case rate for 1913.

## DIPHTHERIA IN WARDS.

		1914.		1913.			
		Cases Notified.	Case-rate per 1,000.	Cases Notified.	Case-rate per 1,000.		
Central Wards.	St. Paul's	37	1.24			0.53	Average 0.84
	St. Mary's	28	0.85			0.49	
	Duddeston and Neehells	29	0.70			0.43	
	St. Bartholomew's	45	1.15	Average	0.87		
	St. Martin's and Deritend	46	1.11	1.21	0.73		
	Market Hall	25	1.46		1.08		
	Ladywood	58	1.93		1.75		
Middle Ring.	Lozells	40	1.15			0.76	Average 1.13
	Aston	28	0.67			0.91	
	Washwood Heath	35	1.03			1.01	
	Saltley	62	2.25			0.94	
	Small Heath	101	3.44	Average	2.61		
	Sparkbrook	43	1.20	1.66	1.06		
	Balsall Heath	65	1.59		0.92		
	Edgbaston	53	1.60		0.92		
	Rotton Park	85	2.11		1.33		
All Saints'	67	1.55		0.83			
Outer Ring.	Soho	69	2.54			1.00	Average 1.32
	Sandwell	79	4.16			0.80	
	Handsworth	48	1.80			1.30	
	Erdington North	29	1.80			0.26	
	Erdington South...	20	1.14			0.59	
	Yardley	39	2.36	Average	2.17		
	Acock's Green	49	1.81	2.52	3.13		
	Sparkhill	35	1.54		1.46		
	Moseley and King's Heath	73	2.81		0.86		
	Selly Oak	104	3.98		1.52		
	King's Norton	75	3.42		2.28		
	Northfield...	15	1.93		0.65		
Harborne	55	3.51		1.13			

From the chart and from these figures it will be noted that Diphtheria, unlike certain other diseases, is not one associated with poverty and squalor, and that it is mainly in the better class artisan dwellings in the middle and outer rings where it is more prevalent as compared with the central areas.

This is borne out by the figures in the following table, which show the incidence of the disease in houses of various sizes:—

Houses with	Diphtheria Cases.	Cases per 1,000 Houses.
3 rooms or less	258	6.4
4 rooms	162	6.5
5 rooms	408	7.6
6 rooms	529	11.0
7 rooms and over	200	7.4

## AGE INCIDENCE OF DIPHTHERIA.

The next table shows the number of cases notified, the number of deaths, and the percentage fatality rate at certain age groups during the last three years. From these figures it will be seen how large the mortality is among young children. The age incidence is of extreme importance in considering the part played by schools in the spread of the disease. It will be noted that a very considerable number of the cases occurred among children under school age.

Ages.	1912-1914.		
	Cases Notified.	Deaths Registered.	Fatality Rate per cent.
Under 1 year	33	21	64
Between 1 and 2 years	121	51	42
"  2  "  3	206	54	26
"  3  "  4	261	73	28
"  4  "  5	280	64	23
"  5  "  10	1336	210	16
"  10  "  15	514	35	7
"  15  "  20	197	10	5
20 years and over	473	12	3
Total	3421	530	15

#### SCHOOLS IN RELATION TO DIPHTHERIA.

The following table shows that certain schools had among their scholars a much greater number of cases than others. In order to make the statement relatively accurate, it has been necessary to state the number of cases not as a total number per school, but as a percentage for every 100 places in the school, as schools vary in size very much indeed.

No cases	...	...	...	...	...	21	Schools.
Under .5 per cent.	...	...	...	...	...	66	"
Between .5 and 1.0 per cent.	...	...	...	...	...	51	"
"  1.0  "  1.5	...	...	...	...	...	14	"
"  1.5  "  2.0	...	...	...	...	...	2	"
"  2.0  "  2.5	...	...	...	...	...	6	"
"  2.5  "  3.0	...	...	...	...	...	1	"
"  3.0  "  4.0	...	...	...	...	...	1	"

#### STEPS TAKEN TO PREVENT THE SPREAD OF DIPHTHERIA.

Every case of diphtheria is required to be notified. Frequently this is done by telephone, and afterwards confirmed by the ordinary notification form. A telephonic communication is always accepted if made by a medical man, because it enables more rapid action to be taken in the direction of removal of the patient to the hospital. The weakest point in our whole system for preventing diphtheria is the fact that a medical man is not in the vast majority of cases called in until from the third to the seventh day, often later. This is due to the fact that the lay public do not, and often cannot, distinguish between simple sore throat and true diphtheria. The delay is probably mainly responsible for the high mortality rate. Unfortunately it is impossible to entirely prevent this; but were it possible, the mortality ought by proper methods of treatment to be capable of reduction to almost a vanishing point. It is, therefore, in the highest degree necessary that when a diagnosis of diphtheria is made, treatment should be commenced early, either by removal to hospital or at the patient's own house. With the ordinary severe cases of diphtheria the medical attendant has little difficulty in diagnosis, but in certain other cases there is considerable difficulty, and in these cases use is made of the facilities provided by the Council for bacteriological examination and diagnosis. During 1914 swabs were taken by general practitioners and sent to the University either for diagnosis or to establish freedom from infection in 3,946 cases, at a cost to the City of £913 10s. 0d.

The receipt of a notification puts into operation the necessary inquiry as to the source of infection and the measures taken to prevent infection spreading to others. This includes the stopping of children from school. This work is supervised in every case by the Assistant Medical Officers, who are responsible for taking the necessary action. To enable the Assistant Medical Officer to ascertain better what is required, he has, in addition to the detailed report on the case, kept a school record and a milk record in each instance. The Assistant Medical Officer also supervises the disinfection in each case.

In order that parents living in the neighbourhood of a house in which a case of diphtheria has occurred may be warned, the following leaflet has been distributed to the houses surrounding the one attacked:—

PUBLIC HEALTH AND HOUSING DEPARTMENT,  
THE COUNCIL HOUSE,  
BIRMINGHAM.

#### SORE THROAT, DIPHTHERIA AND SCARLET FEVER.

The Public Health Committee have had it brought to their notice that a number of children suffer severely because a doctor is not called in early enough in cases of sore throat or Diphtheria or Scarlet Fever. They desire me to draw the attention of parents and guardians to the fact that while it may not be necessary to call in medical assistance in every case of sore throat, parents and guardians should decide on the lines set out below as to whether medical advice is desirable or not. Occasionally what appears to be a trivial sore throat may turn out to be the commencement of an attack of Diphtheria or Scarlet Fever.

Whenever a child complains of sore throat, or when a child is obviously ill, it is desirable that the parent should examine the throat. This can best be done by gently pressing the tongue down by means of the handle of a teaspoon.

Send for the doctor—

1. If the child has got a sore throat accompanied by general illness, particularly if such symptoms as vomiting, headache, running at the nose, or a slight rash are noted;

2. Whenever there are on the throat any white patches, even if such are not accompanied by any obvious symptoms of illness.

By getting a doctor at once in such cases the life of the child may be saved.

JOHN ROBERTSON,  
*Medical Officer of Health.*

#### DIPHTHERIA IN OTHER TOWNS.

The figures obtainable in respect of diphtheria for the 20 largest towns are set out in the table below. The latest annual report of the Registrar-General is that for 1913, so that the figures in question deal with that year and the previous year, and not the year under review; but they are shown with a view to giving a relative idea of the position of Birmingham compared with that in other large towns. The figures relate to the number of deaths per 100,000 persons under 15 years of age.

	Deaths per 100,000 under 15 years.			Deaths per 100,000 under 15 years.	
	1912.	1913.		1912.	1913.
London ...	34	33	Newcastle-on-Tyne ...	38	29
Birmingham ...	37	59	Nottingham ...	36	48
Liverpool ...	40	31	Stoke-on-Trent ...	70	111
Manchester ...	43	42	Salford ...	43	36
Sheffield ...	32	36	Portsmouth ...	185	127
Leeds ...	68	62	Leicester ...	32	29
Bristol ...	45	24	Cardiff ...	54	64
West Ham ...	33	25	Bolton ...	37	57
Bradford ...	77	74	Croydon ...	48	28
Hull ...	25	35	Sunderland ...	42	41

The next table shows the percentage mortality (based on the notified cases) for each of seven towns:—

	Birmingham.	London.	Liverpool.	Manchester.	Sheffield.	Glasgow.	Edinburgh.
1905	14.0	8.4	15.4	22.4	14.3	14.7	9.0
1906	11.8	8.6	16.8	21.1	12.6	10.7	7.1
1907	10.9	8.9	11.7	20.4	14.1	10.4	5.0
1908	13.7	9.0	13.4	21.8	13.7	11.3	4.1
1909	14.7	9.1	10.2	17.9	10.5	12.0	8.9
1910	10.5	7.9	9.2	19.9	9.3	9.8	11.7
1911	9.9	8.3	11.5	16.5	10.1	9.1	8.0
1912	12.5	6.4	11.2	20.0	9.0	10.5	6.8
1913	17.1		7.6	14.9	7.1	4.9	7.8
1914	16.0						

## DIPHTHERIA AND REMOVAL TO HOSPITAL.

The following table shows the percentage number of notified cases removed to hospital in seven towns since 1905, the year when cases were first accepted for treatment in the Birmingham City Hospitals:—

	Birmingham.	London.	Liverpool.	Manchester.	Sheffield.	Glasgow.	Edinburgh.
1905	46.0	82.1	53.1	57.3	55.8	80.0	86.2
1906	52.0	78.4	59.0	47.4	50.2	86.5	88.3
1907	64.2	81.6	58.9	43.7	48.5	85.6	86.0
1908	64.2	84.1	65.9	49.8		84.6	87.0
1909	71.9	85	62.1	53.8	74.6	88.5	87.7
1910	70.4	84	60.8	59.4	70.3	89.8	93.2
1911	69.0	85	74.6	68.0	75.0	89.6	92.2
1912	73.2	87	77.8	62.8	76.4	90.3	93.0
1913	68.7		82.2	58.0	66.4	90.7	92.8
1914	71.4						

## DEATHS IN HOSPITALS.

During 1914 14.1 per cent. of the patients admitted to the City Hospitals died from the disease. Dr. Whitehead reports that the type of the disease among the patients admitted during 1913 and 1914 has been a very severe one, and that a considerable proportion of the patients admitted have either been received in a moribund condition or already so damaged by the disease that anti-toxin would be of little value. It must be borne in mind that the severest cases are sent to the hospital, and that, therefore, the value of good treatment and nursing in hospital is not indicated by the comparative figures as they would be were average cases taken.

The following table shows the percentage fatality among cases treated in hospital and at home in Birmingham, and in hospital in London, Liverpool, Manchester, Sheffield, Glasgow, and Edinburgh. It will be noted that the mortality in many of these towns varies from year to year, and also that in certain instances there is a higher mortality in one town than another. Anti-toxin has done very much to reduce mortality. It has been introduced gradually since 1894, and is the main reason for the general diminution in the mortality from diphtheria.

## MORTALITY AMONGST ALL CASES NOTIFIED AS DIPHTHERIA IN BIRMINGHAM.

(Not revised for errors in diagnosis.)

	City Hospitals.			At Home or elsewhere.		
	Cases.	Deaths.	Ratio.	Cases.	Deaths.	Ratio.
1905 ... ..	321	34	10.6	377	64	17.0
1906 ... ..	425	47	11.1	413	48	11.6
1907 ... ..	650	69	10.6	353	34	9.6
1908 ... ..	510	65	12.7	328	44	13.4
1909 ... ..	494	59	12.0	246	36	14.6
1910 ... ..	416	44	10.6	240	31	12.9
1911 ... ..	390	45	11.5	303	31	10.2
1912 ... ..	509	52	10.2	455	56	12.3
1913 ... ..	680	109	16.0	486	79	16.3
1914 ... ..	1181	166	14.1	705	96	13.6

## RATIO OF DEATHS TO ADMISSIONS IN DIFFERENT TOWNS.

Towns.	1909	1910	1911	1912	1913
Birmingham ... ..	12.0	10.6	11.5	10.2	16.0
London ... ..	9.4	7.8	8.9	6.6	—
Liverpool ... ..	10.0	9.5	10.0	10.0	7.0
Manchester ... ..	18.0	17.1	17.3	18.2	16.3
Sheffield ... ..	6.3	5.0	7.1	5.8	5.3
Glasgow ... ..	11.8	10.4	9.2	10.9	8.8
Edinburgh ... ..	8.6	11.0	7.2	6.2	6.0

## DISTRIBUTION OF ANTI-TOXIN.

Diphtheria anti-toxin is distributed in glass bulbs containing 2,000 units. The amount used for one patient varies usually from 4,000 units to 60,000 units. Anti-toxin is supplied free of charge to medical practitioners for use among Birmingham patients suffering from the disease. The number of doses supplied during 1914 was 1,282 each of 4,000 units.

## DIARRHOEA AND ENTERITIS.

There were 767 deaths recorded from this group of diseases, equal to a death-rate of .87 per 1,000, as compared with 1.11 in 1913.

The figures for previous years are shown in the following table, which gives in addition certain meteorological dates:—

	Deaths from Diarrhoea and Enteritis.	Death-rate per 1,000	Maximum Air Temperature	Days with 75° or over.*	Maximum Soil Temperature (4ft. deep).*	Amount of Rain.*
1901 ...	1,320	1.74	88.0	17	56.0	5.91
1902 ...	634	.82	81.4	4	53.9	7.51
1903 ...	921	1.19	83.8	4	53.8	9.85
1904 ...	1,422	1.82	81.8	16	55.8	5.75
1905 ...	839	1.06	80.3	7	55.4	7.33
1906 ...	1,439	1.80	90.6	15	56.2	2.97
1907 ...	511	.63	76.8	1	53.2	6.08
1908 ...	873	1.06	82.0	7	54.2	6.94
1909 ...	535	.65	84.4	9	54.3	7.63
1910 ...	541	.65	73.9	0	53.2	8.24
1911 ...	1,390	1.65	93.9	40	57.2	3.27
1912 ...	346	.41	82.2	4	53.9	10.99
1913 ...	970	1.11	79.4	6	54.0	4.51
1914 ...	767	.87	82.6	8	55.3	7.00

\*In the third quarter of the year.

It will be seen that generally the summer was a warm one. This followed a period of dry warm weather during April, May, June and July. Indeed, there was by the end of July every indication that summer diarrhoea would be excessively prevalent. It was, therefore, decided to take extra precautions both as regards municipal cleanliness in the direction of the frequent emptying of ashbins and ash-places, and also in warning householders by handbills (copy of which is printed on the opposite page) and by posters. The whole staff of Health Visitors were at work during August giving particular attention to the prevalence of this very fatal disease.

The 1914 epidemic commenced during the last week in July and terminated during the last week in October, the highest weekly mortality being 65 deaths during the second week of September.

The wards suffered in the following order:—

## DIARRHOEA AND ENTERITIS (under two years).

	Death-Rates per 1,000 Births.		Death-Rates per 1,000 Births.
St. Mary's ...	72	Small Heath ...	15
Duddeston and Nechells ...	59	Acoc's Green ...	14
Market Hall ...	49	Handsworth ...	13
St. Bartholomew's ...	44	Sparkbrook ...	13
St. Martin's and Deritend ...	36	Sandwell ...	12
St. Paul's ...	36	Sparkhill ...	12
Aston ...	34	Washwood Heath ...	12
Ladywood ...	33	Balsall Heath ...	9
Rotton Park ...	33	Edgbaston ...	9
Erdington North ...	28	Erdington South ...	8
Lozells ...	28	Soho ...	6
All Saints' ...	25	Selly Oak ...	6
Northfield ...	21	Moseley and King's Heath ...	5
Yardley ...	19	King's Norton ...	4
Saltley ...	18	Harborne ...	3

## PROTECT THE BABIES DURING HOT WEATHER.



The season has now arrived when babies and young children are very liable to suffer from diarrhoea.

This disease can be prevented if certain very simple precautions are taken, because diarrhoea in young children is due to either dirty surroundings or dirty food.

The following precautions are necessary:—

The clothing and bedding should be kept very clean.

The furniture, floors and everything in the house which the child may touch requires to be kept clean.

The yard should be kept clean and free from any house refuse or stable dung.

A covered ashbin should be used for household refuse.

If any smell is noticed from neighbouring premises, a postcard should be sent to the Public Health Department, The Council House.

By getting rid of all kinds of refuse the breeding places of flies will be destroyed. It has been proved that flies carry infection and filth from the ashpit or manure pit to the milk and food of the children.

Milk should be boiled at once when received, then cooled and kept in a jug covered with a piece of clean muslin in a cool place.

Long tube feeding bottles and dummy teats cause diarrhoea, because they get very dirty.

Ventilate all the rooms in your house by keeping windows open day and night, and let in as much sunlight as possible to assist in purifying the house.

When a baby (or a young child) has diarrhoea, a doctor must be seen at once. Until the doctor has seen the child, give no Breast Milk, Cows' Milk, or Food of any kind; but only sips of cold boiled water (2 or 3 teaspoonfuls in the hour).

THE COUNCIL HOUSE,  
BIRMINGHAM.

Comparative figures of mortality for other towns were as follows:—

				Diarrhoea & Enteritis (under 2 years). Death-Rates per 1,000 Births in 1914.					Diarrhoea & Enteritis (under 2 years). Death Rates per 1,000 Births in 1914.
London	...	...	...	27.6	West Ham	...	...	...	26.3
Glasgow	...	...	...	23.2	Bradford	...	...	...	14.6
Birmingham	...	...	...	27.5	Hull	...	...	...	32.3
Liverpool	...	...	...	40.6	Newcastle	...	...	...	31.5
Manchester	...	...	...	26.9	Nottingham	...	...	...	29.1
Sheffield	...	...	...	31.6	Stoke	...	...	...	43.2
Leeds	...	...	...	26.6	Portsmouth	...	...	...	12.4
Bristol	...	...	...	15.9	Salford	...	...	...	26.5
Edinburgh	...	...	...	14.5	Leicester	...	...	...	21.5

The age at death of the patients during the months of August, September and October were as follows:—

Age.	Aug., Sept., and Oct.	Quarterly average for remainder of year.
0 to 1	348	60
1 to 2	67	15
2 to 3	16	3
3 to 4	3	1
4 to 5	4	1
5 or over	27	20

#### TUBERCULOSIS.

Certain of the statistics relating to tuberculosis are open to very considerable error unless interpreted carefully. This is due to the fact that such a large proportion of the population are infected at one time or another to an extent which is unrecognisable by ordinary methods, that it will at all times be difficult or impossible to say exactly how many have an active or quiescent stage of the disease. We must, therefore, for administrative purposes be content to obtain year by year the number of those who for the first time suffer from the disease in an active and recognisable form. So far as the Birmingham figures for new cases are concerned, they have now become about as satisfactory as we may expect them, that is to say, that few patients who call in a medical man escape being reported if they have active mischief. A very large number of patients still do not go to a doctor for several months after the first obvious symptoms of their illness.

To a lesser extent the mortality statistics are also open to error. The notification of pulmonary tuberculosis in a patient marks him in such a way that if the same patient dies later from an intercurrent disease the fact of his having had tuberculosis is more likely now to be entered on the death certificate than formerly, and as a result this by our present method of classification is taken to be the cause of death. It is probable that during the last two years, and for a few years to come, the deaths from tuberculosis cannot be fairly compared with those in former years.

The tendency of our figures is at present to understate the number of new cases of the disease, and to overstate the deaths directly due to it.

The number of cases of pulmonary tuberculosis reported was as follows:—

1912	1913	1914
4,394	4,229	3,317

The number of deaths from pulmonary tuberculosis was as follows:—

	No. of Deaths.	Death-rate in Birmingham.	Death-rate in England and Wales.
1901	1120	1.47	1.26
1902	1071	1.38	1.23
1903	992	1.28	1.21
1904	1018	1.30	1.24



Deaths from Pulmonary Tuberculosis—*continued.*

	No. of Deaths.	Death-rate in Birmingham.	Death-rate in England and Wales.
1905 ...	994	1.26	1.14
1906 ...	908	1.14	1.16
1907 ...	898	1.11	1.15
1908 ...	1021	1.24	1.12
1909 ...	1008	1.22	1.09
1910 ...	898	1.08	1.01
1911 ...	958	1.14	1.08
1912 ...	1088	1.28	1.04
1913 ...	1041	1.19	1.00
1914 ...	1059	1.20	—

During 1914 there were 3,317 cases reported and 1,059 deaths.

If these figures are approximately accurate, then the fatality from this disease was 32 per cent.

That is to say, that of every 100 new cases reported 68 will recover and 32 will die.

In view of statements made in recent years as to the high fatality of pulmonary tuberculosis, these figures clearly indicate that by far the larger number of notified cases recover. The fact may here be repeated that there is no doubt about the large number of persons who suffer from limited infections and who recover without any knowledge of the existence of the disease.

The practical point is that pulmonary tuberculosis is usually a very curable disease if its existence can be detected early, and before extensive mischief has been wrought. This also demonstrates the necessity for every effort being made to ensure correct diagnosis at the earliest time.

## SICKNESS RATES FROM PULMONARY TUBERCULOSIS.

		1914	
Central Wards	St. Paul's	4.53	Average— 1914, 5.4 1913, 7.3
	St. Mary's	5.74	
	Duddeston and Nechells	5.13	
	St. Bartholomew's	6.88	
	St. Martin's and Deritend	6.16	
	Market Hall	4.21	
	Ladywood	5.42	
Middle Ring	Lozells	2.59	Average— 1914, 3.7 1913, 4.7
	Aston	3.52	
	Washwood Heath	3.64	
	Sattley	2.87	
	Small Heath	4.06	
	Sparkbrook	4.28	
	Balsall Heath	4.12	
	Edgbaston	2.71	
Rotton Park	4.72		
All Saints'	4.56		
Outer Ring	Soho	2.76	Average— 1914, 2.2 1913, 2.7
	Sandwell	2.32	
	Handsworth	2.17	
	Erdington North	2.29	
	Erdington South	2.05	
	Yardley...	2.18	
	Acock's Green	2.67	
	Sparkhill	2.56	
	Moseley and King's Heath	1.73	
	Selly Oak	1.42	
	King's Norton	2.74	
Northfield	1.93		
Harborne	2.36		

## SEX INCIDENCE OF PULMONARY TUBERCULOSIS.

From the figures in the following table it will be noted that rather more males were reported last year than females. This corresponds with the notification experience in each of the previous years. The mortality among males was, however, much greater.

				Cases of Pulmonary Tuberculosis.		Deaths from Pulmonary Tuberculosis.	
				Males.	Females.	Males.	Females.
Under 5 years	...	...	...	32	26	13	13
5 to 10	„	„	„	162	136	2	4
10 to 15	„	„	„	149	141	6	7
15 to 20	„	„	„	135	127	29	32
20 to 25	„	„	„	181	218	57	48
25 to 35	„	„	„	392	444	136	107
35 to 45	„	„	„	338	272	188	96
45 to 55	„	„	„	228	139	135	70
55 to 65	„	„	„	99	56	68	19
Over 65	„	„	„	27	15	21	8
All ages	...	...	...	1743	1574	655	404
Rate per 1,000	...	...	...	4.15	3.42	1.56	.88

## NON-PULMONARY TUBERCULOSIS.

There were 498 cases notified during the year, particulars of which are given in the table on page 42.

The mortality from these types of the disease was as follows:—

## MORTALITY FROM OTHER FORMS OF TUBERCULOSIS.

	No. of Deaths.	Death-rate in Birmingham.	Death-rate in England and Wales.
1901	395	.52	.54
1902	285	.37	.51
1903	370	.48	.54
1904	351	.45	.54
1905	322	.41	.49
1906	295	.37	.50
1907	343	.43	.47
1908	287	.35	.47
1909	248	.30	.45
1910	270	.32	.42
1911	272	.32	.38
1912	204	.24	.33
1913	300	.34	.34
1914	234	.27	—

## DISTRIBUTION OF NOTIFIED CASES OF NON-PULMONARY TUBERCULOSIS.

		1914					
Central Wards	St. Paul's	...	...	...	...	.67	Average 0.89
	St. Mary's	...	...	...	...	.73	
	Duddeston and Nechells	...	...	...	...	.83	
	St. Bartholomew's	...	...	...	...	.48	
	St. Martin's and Deritend	...	...	...	...	.92	
	Market Hall	...	...	...	...	1.34	
	Ladywood	...	...	...	...	1.26	
Middle Ring	Lozells	...	...	...	...	.49	Average 0.59
	Aston	...	...	...	...	.41	
	Washwood Heath	...	...	...	...	.53	
	Saltley	...	...	...	...	.54	
	Small Heath	...	...	...	...	.44	
	Sparkbrook	...	...	...	...	.53	
	Balsall Heath	...	...	...	...	.51	
	Edgbaston	...	...	...	...	.99	
Rotton Park	...	...	...	...	.70		
	All Saints'	...	...	...	...	.74	

DISTRIBUTION OF NOTIFIED CASES OF NON-PULMONARY TUBERCULOSIS—*continued*.

		1914							
Outer Ring	...	Soho	...	...	...	...	...	.37	Average 0.31
	...	Sandwell	...	...	...	...	...	.21	
	...	Handsworth	...	...	...	...	...	.26	
	...	Erdington North	...	...	...	...	...	.25	
	...	Erdington South	...	...	...	...	...	.17	
	...	Yardley	...	...	...	...	...	.42	
	...	Aeock's Green	...	...	...	...	...	.26	
	...	Sparkhill	...	...	...	...	...	.18	
	...	Moseley and King's Heath	...	...	...	...	...	.27	
	...	Selly Oak	...	...	...	...	...	.49	
	...	King's Norton	...	...	...	...	...	.18	
...	Northfield	...	...	...	...	...	—		
...	Harborne	...	...	...	...	...	.96		

## FATALITY OF NON-PULMONARY TUBERCULOSIS.

A considerable number of cases of non-pulmonary tuberculosis, especially those which run a rapid course, do not at present get notified during the patient's lifetime, but appear for the first time in our records on the death returns. To get some idea of the fatality of the different forms of the disease it is necessary to add these un-notified cases to those which were duly notified. The figures then stand as follows:—

## NON-PULMONARY TUBERCULOSIS.

	Cases Notified.	Deaths not notified as cases.	Total Deaths.
Tubercular Meningitis	47	48	89
Abdominal Tuberculosis	137	51	93
Tuberculosis of Spine...	18	6	8
Tuberculosis of Joints	33	1	3
Tuberculosis of other organs, mostly glands	244	6	11
Disseminated Tuberculosis	19	16	30

## DISTRIBUTION OF DIFFERENT FORMS OF NON-PULMONARY TUBERCULOSIS.

	CASES NOTIFIED.					
	In Central Wards.		In Middle Ring of Wards.		In Outer Ring of Wards.	
	No. of Cases.	Rate per 1,000.	No. of Cases.	Rate per 1,000.	No. of Cases.	Rate per 1,000.
Tubercular Meningitis	18	.07	19	.05	10	.04
Tuberculosis of Abdomen	76	.33	48	.13	12	.04
Tuberculosis of Spine	9	.04	7	.02	2	.01
Tuberculosis of Joints	10	.04	18	.05	3	.01
Tuberculosis of other organs	78	.33	114	.32	51	.19
Disseminated Tuberculosis	5	.02	7	.02	7	.03

The chief way in which tuberculosis is spread is by the sputum and cough of persons suffering from pulmonary tuberculosis. But undoubtedly milk from cows suffering with tuberculosis also spreads infection. The first of these methods should occasion non-pulmonary tuberculosis in the same proportion over the city as pulmonary tuberculosis. The second should tend to equalise the spread. The figures given above are only small, but so far as they go they seem to show that non-pulmonary tuberculosis shows about the same excess in the poorer districts as pulmonary.

## Notified Cases of Non-Pulmonary Tuberculosis, 1914.

	MENINGITIS.		ABDOMINAL.		SPINE.		JOINTS.		OTHER ORGANS.		DISSEMINATED.				
	Males	F'males	Males	F'males	Males	F'males	Males	F'males	Males	F'males	Males	F'males			
	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total			
Under 1 year ...	10	10	39	28	67	—	—	—	—	2	1	3	—	2	2
1 and under 2 ...	3	2	12	9	21	—	—	—	1	6	2	8	1	3	4
2 " 3 ...	4	3	3	4	7	—	1	—	—	2	2	4	—	1	1
3 " 4 ...	4	2	4	2	6	—	—	—	—	3	4	7	1	1	2
4 " 5 ...	—	1	2	1	3	—	—	2	1	8	4	12	—	—	—
5 " 10 ...	—	6	9	8	17	3	1	4	5	53	49	102	2	1	3
10 " 15 ...	—	—	4	4	8	1	1	2	1	16	39	55	2	1	3
15 " 20 ...	—	—	—	1	1	1	1	2	1	8	9	17	—	—	—
20 " 25 ...	—	—	1	—	1	1	1	2	3	7	7	14	1	—	1
25 " 35 ...	1	1	2	3	5	4	2	6	3	3	5	8	1	—	1
35 " 45 ...	—	—	—	1	1	1	—	1	3	5	4	9	1	1	2
45 " 55 ...	—	—	—	—	—	—	—	—	1	1	2	3	—	—	—
55 " 65 ...	—	—	—	—	—	—	—	—	—	2	—	2	—	—	—
Over 65 ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
All Ages ...	22	25	47	76	137	11	7	18	33	116	128	244	9	10	19

## ADMINISTRATIVE PROCEDURE.

On receipt of a notification of a case of pulmonary tuberculosis, a visit is paid by a trained nurse to obtain information as to the whole circumstances of the case, and to give preliminary information as to the method of obtaining treatment in a sanatorium or other institution if this is recommended. At the time of this visit the following information is obtained:—

## [COPY OF FRONT OF CARD.]

REGISTER NO.		DISTRICT			MEMO. NO.			
NAME AND ADDRESS	AGE.	POS. IN FAM.	M. S. W.	OCCUPATION AND WORKPLACE (LAST 5 YEARS).				INSURED.
	LOCALIZATION.	MEDICAL ATTENDANT.		NOTIFIED.	FIRST ILL.	VISITED.	RECD. FOR TREATMENT.	
PREVIOUS HEALTH AND ILLNESSES OF PATIENT.					FAMILY HISTORY AND PROBABLE SOURCE.			
CONDITIONS AT WORKPLACE.			INMATES.	AGE.	C.	WORKPLACE.		HEALTH.
HOUSE FACES	RENT							
LIVING ROOMS	BEDROOMS							
VENTILATION								
LIGHTING								
CLEANLINESS								
DAMPNESS								
DEFECTS								

## [COPY OF BACK OF CARD.]

DATE.	SPUTUM.	ISOLATION.	TREATMENT.	WORK?	REMARKS.
EX	REC.	ADM.	DIS.	RE-EX.	REC.

During 1914 there were 3,317 cases of pulmonary tuberculosis notified. In some cases, principally those in asylums, infirmaries, and common lodging houses, the detailed information shown on the card could not be obtained. The following facts were, however, elicited:—

## CONDITION AS TO MARRIAGE.

Males	{ Married ... ..	763	Females	{ Married ... ..	641
	{ Single ... ..	474		{ Single ... ..	478
	{ Widowers ... ..	56		{ Widows ... ..	77

## RENTAL OF HOUSE.

	No. of Cases.	Cases per 1,000 houses.
Rent under 4/- per week	92	17.4
4/- and less than 5/- per week	754	23.5
5/- " 6/- " "	639	21.5
6/- " 7/- " "	753	16.1
7/- " 10/- " "	371	10.5
10/- and over	149	3.3

## SIZE OF HOUSE.

3 rooms	926
4 " "	437
5 " "	302
6 " "	958
7 rooms and over	204

## VENTILATION.

There were 2,002 cases in houses with through ventilation and 1,055 cases in houses of the back-to-back type without through ventilation. This gives 13.3 cases for every 1,000 through houses and 24.5 cases for every 1,000 back-to-back houses.

## OVERCROWDING.

There were few cases of legal overcrowding, but on the other hand there were many cases where too many people resided in the house in view of the existence of infection. In 2,993 houses where consumptives lived there was an average of 5.3 persons per house as compared with an average of 4.7 persons per house at the census of 1911. It is, however, when the sleeping arrangements are inquired into that the bad conditions come to light. Information was obtained at the first visit as to how the consumptive was accommodated. It was found that this was as follows:—

Consumptive sharing bed with another	1,753
Separate bed but sharing same room	425
Consumptive sleeping in separate room	908

In one way or another it has been possible as a result of the visiting to get cases of pulmonary tuberculosis to occupy separate beds. It may be taken that the minimal requirement in this respect is a separate bed, provided the consumptive is careful. It is in nearly all cases wise to get a separate room. In an open-air sanatorium the Local Government Board require a space of eight feet between the centres of beds.

But not only do we have insufficient space for the consumptive inside the dwelling, but in many instances this is made worse by the fact that the dwelling is in a courtyard. Last year 673 cases were reported in courtyard houses, 418 in terrace houses, and 1,582 in front houses.

## DELAY IN SEEING DOCTOR.

One of the points which strike one in making inquiry into the circumstances of Birmingham consumptives on the first visit is the delay which occurs in going to a doctor when the first symptoms of illness appear. The disease has a very insidious onset, and is usually mistaken for a severe cold, with a result that the chance of recovery is greatly reduced.

During 1914 the following facts were elicited:—

Time between onset of symptoms and Notification.	Number of cases found in 1914.
Less than 1 month	216
From 1 to 3 months	418
From 3 to 6 months	308
From 6 to 12 months	560
From 12 to 18 months	101
18 months to 2 years	254
Over 2 years	402

The fault lies mainly with the patient, who either does not suspect the nature of the disease he is suffering from, or if he does (and this is frequent in the case of men), he continues at work and without treatment, hoping for the best.

Bearing in mind the remarks made at the beginning of this section of tuberculosis, it may well be excusable in some cases from the apparently trivial nature of the illness that the patient does not seek medical advice. On the other hand, unless cases can be brought to light early it is quite impossible to obtain the best results of treatment. It may be said that to a considerable extent the prognosis depends on the extent of involvement of the lung tissue when the patient presents himself for treatment for the first time.

CONTACTS.

In the houses of the people visited requests were made by the Visitor to a large number of persons residing in close contact with a consumptive to come up for careful examination by one of the medical officers. Usually this was confined to persons who had some indication of bad health. Similar work is also done by the visitors attached to the General Dispensary. Great difficulty is experienced in getting adult contacts to submit themselves for such examination. There is not so much difficulty in the case of children. But here the necessity is not so great.

In the homes visited for the first time in 1914 there were 13,727 inmates, and approximately rather less than two-thirds of all the new patients were examined at Broad Street Anti-Tuberculosis Centre. Yet only 727 persons presented themselves for examination as contacts, of whom 282 were found to be suffering from tuberculosis.

In order to facilitate the examination of these contacts, Dr. Dixon has arranged for them to come up in the evening, when it is found that they are employed during the day, and they are allowed to choose their own time by filling in the postcard shown below:—

[COPY OF FRONT OF POST CARD]

[COPY OF BACK OF POST CARD]

TIME TABLE.

MONDAY.	Morning & Afternoon.
TUESDAY.	Morning.
WEDNESDAY.	Afternoon & Evening.
THURSDAY.	Morning, Afternoon & Evening.
FRIDAY.	Morning & Evening.
<b>HOURS.</b>	
MORNING.	9-30 a.m. till 12-30 p.m.
AFTERNOON.	2-30 till 4-30 p.m.
EVENING.	6 till 8 p.m.

To the  
**MEDICAL OFFICER OF HEALTH,**  
*The Council House,*  
**BIRMINGHAM.**

Date.....

I can attend at  
 44A BROAD STREET,  
 on.....in the.....  
 (Signed),  
 Name.....  
 Address.....

(3263)

Of the cases of pulmonary tuberculosis notified during 1914 which were over 16 years of age, it was found that the following were insured:—

Insured	...	...	...	...	1,145 men.	611 women.
Not insured	...	...	...	...	164 ,,	599 ,,

It will be seen from the above figures that of the adult consumptives there are two and a half times as many insured persons as uninsured, and this proportion will increase as the present employed women take the place of the married women who now are industrially unemployed, but who were so employed before the Insurance Act came into operation.

## EMPLOYMENT OF CASES OF PULMONARY TUBERCULOSIS.

The following classification of the occupation of notified cases over 15 years of age is based on the Registrar-General's grouping (census report 1911):—

	M.	F.
I. General or Local Government ... ..	15	—
II. Army and Navy ... ..	6	—
III. Professional Occupations (and subordinate services) ... ..	17	17
IV. Domestic Service (including Charwomen, etc.) ... ..	30	99
V. Commercial Occupations (including Clerks, Insurance Agents) ... ..	48	36
VI. Conveyance of men, goods, messages (Carmen, Drivers) ... ..	104	11
VII. Agriculture ... ..	4	—
VIII. Fishing ... ..	—	—
IX. Mines and Quarries—Workers and Dealers ... ..	8	1
X. Metals, Machines, Implements and Conveyances :—		
Tube Manufacture ... ..	45	2
Other Iron and Steel Manufacture ... ..	46	2
Ironfounders ... ..	33	—
Blacksmiths, Strikers... ..	18	—
Erectors, Fitters, Turners ... ..	18	—
Brassfounders ... ..	13	—
Brass-finishers ... ..	6	—
Metal Machinists ... ..	15	7
Other General Engineering and Machine Making ... ..	15	—
Electrical Apparatus ... ..	12	—
Tool Makers ... ..	43	1
Needle, Pin Makers ... ..	—	7
Steel Pen Makers ... ..	3	26
Die, Seal, Coin, Medal makers ... ..	5	1
Gunsmiths, Gun Manufacturers ... ..	22	5
Bolt, Nut, Rivet, Screw Makers ... ..	6	14
Stove, Grate, Fire-iron Makers ... ..	1	—
Bedstead Makers ... ..	8	1
Wire-drawers, Makers, Workers, Weavers ... ..	17	3
Gas Fittings Makers ... ..	5	—
Lamp, etc., Makers ... ..	6	5
White Metal, Plated Ware Makers ... ..	20	18
Tin Plate Goods Makers ... ..	13	17
Brass, Bronze Workers ... ..	94	24
Other Iron Goods Makers ... ..	15	11
Cycle Makers, Mechanics ... ..	45	8
Motor Car Makers, Mechanics ... ..	11	—
XI. Precious Metals, Jewellery, Watches, etc. ... ..	59	32
XII. Building (including Painters, Navvies, etc.) ... ..	73	1
XIII. Wood Furniture, etc. (Cabinet Makers, French Polishers, etc.)... ..	42	15
XIV. Brick, Pottery, Glass ... ..	19	2
XV. Chemicals, etc. (including Indianrubber, Soap, etc.) ... ..	27	14
XVI. Skins, Leather, Hair, and Feathers ... ..	12	7
XVII. Paper, Books, and Stationery ... ..	17	10
Paper Bag and Cardboard Box Makers ... ..	—	13
XVIII. Textile Fabrics ... ..	5	1
XIX. Dressmakers ... ..	28	36
Button Makers ... ..	5	12
XX. Food, Tobacco, Drink, and Lodging ... ..	44	34
XXI. Gas, Water, etc., Supply ... ..	18	—
XXII. General and Undefined Workers ... ..	201	159
XXIII. Unoccupied ... ..	264	473

The above table does not by itself indicate any facts which can be usefully employed for further investigation, particularly as it is impossible to estimate the percentage incidence of the disease on the trades set out. This is due to the fact that all figures relating to the numbers employed in the various branches of trade are too uncertain to be of real value.



They can, however, be made of value in another direction. It was arranged during the year to supply to Dr. Collis, one of H.M. Medical Inspectors of Factories and Workshops, the name and address of every patient suffering from pulmonary tuberculosis who was employed in a Birmingham factory, and the name and address of the place of employment. With this information these factories are visited and the conditions found at the workplace noted. In time it may be possible to accumulate evidence to show that particular factories or particular departments of a factory are injuriously predisposing the workpeople to phthisis.

#### FOLLOWING UP THE CASES.

At the Public Health Department there are ten Tuberculosis Visitors, all of whom are trained nurses with special experience in the method of dealing with tuberculosis. During 1914 they made 25,000 visits to the homes of consumptives on the card index. This would allow of rather less than three visits to such houses per annum. After the first visit to cases which are being treated at the Tuberculosis Department of the General Dispensary, the case is handed over to that institution, although kept on our books, as such cases are systematically visited by the General Dispensary staff of trained nurses. When such cases recover or die, or cease attending the General Dispensary Tuberculosis Department, a notification is sent to the Public Health Department to this effect.

The primary duty of the Tuberculosis Visitor or Nurse is to see that the patient is taking reasonable precautions to prevent the spread of infection. This will include such important matters as re-arranging the sleeping accommodation, instructing the patient in the best method of disposing of the sputum, and of dealing with clothing, especially handkerchiefs. It includes the difficult problems which arise in regard to the employment of the patient and the disposal of his sputum during employment. The main effort is directed to ensuring that the patient shall be as little dangerous in the home and in the family as possible.

A very important other duty is that of securing for the patient by one means or another the best conditions for recovery. In a great many cases the experienced visitor can make many suggestions which the patient can easily carry out for himself. In many other cases it is difficult or impossible to obtain what are really good conditions for recovery. As an indication of what is needed it may be said that out of the 9,355 cases now on the card index, the following needs have been noted and attempts made to provide some of them:—

1,030	require separate bed.
364	„ clothing.
1,071	„ extra nourishment.
1,697	„ better house or larger house.
572	„ change of work.
187	„ light work only.

Advice is given in the most needy cases as to how such relief may be obtained, and very great help has to be acknowledged from the Birmingham Insurance Committee, the Birmingham Board of Guardians, the City Aid Society, the Charity Organisation Society, and many similar agencies.

Obviously at the present time the needs are far greater than the means at the disposal of these institutions.

#### TREATMENT OF PULMONARY TUBERCULOSIS.

This is undertaken—

- (1) By private practitioners.
- (2) By panel practitioners.
- (3) By the General Hospitals.
- (4) By the General Dispensary.
- (5) By the Municipality.

There are no records available as to the number of patients treated by Groups 1, 2, and 3. As a general rule, the General Hospitals do not treat as in-patients cases of pulmonary tuberculosis, unless they be admitted for intercurrent disease. In the out-patient departments, however, there are some patients treated, but no record is kept which gives the number of times that any particular patient attends, and no organisation is in operation yet for visiting so as to ensure that the patient regularly attends. This is very unsatisfactory, and is bad both for the patient and the medical student who is being taught. No arrangement is made to get contacts from the infected home. Both the General Hospital and the Queen's Hospital entered into the following agreement with the Public Health Department in order that they might be "recognised" by the Local Government Board:—

#### CITY OF BIRMINGHAM.

##### "CONDITIONS FOR INSTITUTIONS SEEKING TO BE RECOGNISED FOR THE TREATMENT OF PULMONARY TUBERCULOSIS IN BOTH INSURED AND UNINSURED PERSONS.

"To ensure that satisfactory results shall be obtained, the following conditions shall be observed:—

"1. All patients accepted for treatment must be reported to the Chief Tuberculosis Officer when treatment commences and when it ceases. In order that there may be a mutual interchange of clinical notes, each institution shall on application at the termination of treatment send an epitome of the notes of any particular patient to the Chief Tuberculosis Officer, who, on application, will similarly supply an epitome with regard to any particular patient who has been treated by the Corporation to any approved Tuberculosis Institution.

"2. Arrangements shall be made to secure the regular attendance of patients as far as practicable to avoid persons absenting themselves without cause.

"3. The treatment shall be given by qualified medical practitioners.

"4. The Institution shall as far as practicable refer to other institutions, such as sanatoria, dispensaries, hospitals, etc., any cases which, in the opinion of the Medical Officer in charge of the case, after consultation with the Chief Tuberculosis Officer of the City, could be more effectively and economically treated by these means.

"5. In every case special attention shall be given to the instruction of the patient, both verbally and by printed matter, in order that the best home conditions may be secured, and that the patient may be informed of any risk which he may be to others.

"6. Contacts in the same house who may be infected shall be medically examined where possible, with a view to the early recognition and treatment of every case of tuberculosis."

The General Dispensary has, on the other hand, established a complete organisation, and carries out in a satisfactory manner the treatment and care of consumptives referred to it. During 1914 547 persons were reported to the Public Health Department as having come under treatment at their Dispensary in Great Charles Street, and 5 patients were sent from there for treatment in one of the City Sanatoria.

The report by Dr. Dixon at the foot of this page records what was done during 1914 at the Municipal Tuberculosis Centre in Broad Street, and reports from the various sanatoria under the control of the Corporation are also given.

#### NON-PULMONARY TUBERCULOSIS.

All the notified cases are visited in the same way as the pulmonary cases, but no general scheme for the treatment of these cases has yet been approved in Birmingham. Fifty-four children are treated at a time at Yardley Road Sanatorium, and between 70 and 80 at The Woodlands, but much more accommodation is still required to enable us to say that no child or young person suffering from non-pulmonary tuberculosis need go without treatment. In addition to the above, a good many cases are treated at the three large General Hospitals, or by the Board of Guardians at their three workhouse infirmaries.

During the year under review information was obtained as to the needs of the non-pulmonary cases of tuberculosis in the City, but owing to the war the consideration of this matter was postponed, as it obviously entailed the establishment of a new institution.

#### REPORT ON THE TREATMENT OF TUBERCULOSIS.

A large part of the treatment of pulmonary tuberculosis in Birmingham is carried out in institutions under the control of the Public Health Department, by the general hospitals, and by other institutions working in conjunction with, and in some instances subsidised by, the Municipal

Authority; included amongst the latter are the Romsley Hill Sanatorium of the Birmingham Hospital Saturday Fund and the Special Department of the General Dispensary in Great Charles Street. The doctors on the panel of the Local Insurance Committee also treat a number of insured consumptives in their own homes.

The Municipal Institutions used for the treatment of pulmonary tuberculosis are :—

*The Anti-Tuberculosis Centre, 44a Broad Street*, the medical staff of which consists of: Dr. G. B. Dixon, Chief Tuberculosis Officer. Dr. R. McGregor, Dr. J. Stevenson, Dr. A. F. Seacome, and Dr. Rayner, Assistant Tuberculosis Officers. With the exception of Dr. McGregor, the other members of the medical staff also form the staff of the Yardley Road Sanatorium. In addition to this full-time staff there is a part-time staff of four doctors, who assist in the evening work of treatment.

*The Yardley Road Sanatorium (199 beds)*, situated within the City boundary. Medical Superintendent, Dr. G. B. Dixon, Resident Medical Officers, Dr. Stevenson, Dr. Seacome, Dr. Rayner. Matron, Miss Moore.

*The Salterley Grange Sanatorium, near Cheltenham (68 beds)*. In the early part of the year there were only 48 beds, but this number has since been increased to 68. Medical Superintendent, Dr. R. McGregor, succeeded by Dr. Glover. Matron, Miss Moffat.

*The West Heath Hospital* has 45 beds for acute cases of pulmonary tuberculosis. Medical Superintendent, Dr. Edmunds, temporarily succeeding Dr. Leggat, who is absent on military service. Matron, Miss Bywater.

*The Romsley Hill Sanatorium, near Halesowen (110 beds)*, is one of the institutions of the Birmingham Hospital Saturday Fund, ninety of the beds are rented by the Birmingham Public Health Committee, and whenever possible they are filled by persons subscribing to the Hospital Saturday Fund. Medical Superintendent, Dr. Allan. Resident Medical Officer, Dr. Heweson. Matron, Miss Murray.

*The General Dispensary Special Department, Great Charles Street*, is an out-patient department for the treatment of tuberculosis, which is a unit in the Municipal Scheme for the treatment of this disease; it receives a subsidy from the City Council. The Medical Superintendent is Dr. Carver. Assistant Medical Officer, Dr. Moorhead.

#### THE ANTI-TUBERCULOSIS CENTRE.

At the Anti-Tuberculosis Centre all notified cases of pulmonary tuberculosis desiring treatment are examined, and a suitable form of treatment is decided upon, at the same time useful advice and instruction are given.

In some instances it is possible to commence treatment at the Centre at once, preliminary sanatorium treatment not being necessary, and in most of these cases the patient is able to follow his occupation whilst he is receiving treatment.

Those who require sanatorium treatment are sent for varying periods to one of the sanatoria mentioned above.

The beds at Salterley Grange Sanatorium are reserved for those with early disease, in whom arrest of the trouble may be looked for.

Patients with acute disease, requiring prolonged rest in bed, are received into the West Heath Hospital. Other patients are treated at the Yardley Road and Romsley Hill Sanatoria.

Whilst in the sanatoria patients experience the advantage of living in the open air, they have the benefit of a generous supply of good food, their sputum is carefully collected and destroyed, and the period of time to be spent in rest and exercise is supervised daily. In addition they receive useful instruction on all these points, which teaches them how to convert their own homes into modified sanatoria, where they may live without infecting their relatives, and with a good prospect of having their disease arrested when it is not too advanced.

On their return from the sanatoria they are again examined at the Centre, where many continue to attend as out-patients; some, however, return to their own doctors. The patients attending the Centre are examined from time to time, and those who have been patients in the past are re-examined again after varying intervals of time.

The Anti-Tuberculosis Centre is open daily, including the evenings on five days a week and on Saturdays for half the day. New patients are examined, and old patients are re-examined by appointment during the mornings and afternoons.

Treatment is given during the evenings to those who are working, and in the afternoons to children and those women and men who are not working.

Those who have been in contact with persons suffering from tuberculosis are examined at different times which are convenient for them.

During the year there were 40,917 attendances at the Centre, this number includes all who attended both for treatment and examination. 2,029 new patients were examined during the year, 727 contacts were examined, and there were also 2,496 re-examinations. Of the 2,756 new patients who were examined no less than 1,910 were recommended for initial treatment in a sanatorium, the sanatorium treatment being essential in many cases both for the purpose of education and for medical reasons. It is too frequently impossible to get patients to adopt even the most simple form of sanatorium method at home without their first receiving practical experience and instruction, and without this knowledge out-patient treatment loses much of its utility.

## NUMBER OF PATIENTS TREATED.

In 1914 the names of 2,123 patients were on the register as having received treatment as out-patients; of these 1,016 were males and 1,107 were females. 852 of the male patients were insured persons, and 517 of the females.

At the end of the year 417 patients had completed a satisfactory course of treatment, 941 were still undergoing treatment, and 765 had discontinued treatment; of these 765 494 who were insured had been transferred to domiciliary treatment, that is, treatment by their panel doctor, and 100 uninsured patients returned to their own doctors for treatment; of the remainder some left the City, whilst a certain number received treatment at other institutions.

## CLASSIFICATION OF OUT-PATIENTS RECEIVING TREATMENT.

Below is given the number of patients in the different stages of the disease and the number in each stage in whose sputum tubercle bacilli were found, also the number in whose sputum these bacilli were absent, and the number of those with no sputum.

## STAGE OF THE DISEASE.

Of the 2,123 patients 1,002 were in Stage I. (Turban-Gerhardt)\* of the disease, 678 were in Stage II., and 408 were in Stage III., whilst 35 were unclassified.

\*An explanation of this classification is given on a subsequent page.

## RESULTS OF THE EXAMINATION OF SPUTA.

Of the 1,002 in Stage I. 260 were found to have tubercle bacilli in the sputum, 331 had sputum in which these bacilli were not found and 411 had no sputum. 384 of the 678 in Stage II. presented tubercle bacilli in the sputum, in 175 instances where sputum was present these bacilli were not found, and 119 in this stage had no sputum. 322 of the 408 patients in Stage III. were found to have tubercle bacilli in the sputum; they could not be demonstrated in 47 cases where sputum was present, and 39 patients in this stage were without sputum.

## WORKING CAPACITY.

The following tables show the working capacity before and after treatment of all patients who could be classified, and who had received any treatment at the Centre during the year. It should be stated that in a large percentage of the cases the out-patient treatment was subsequent to treatment in one of the sanatoria.

Working Capacity.				Before Treatment.		After Treatment.	
				%		%	
STAGE I.							
Unimpaired	...	...	...	200	19.96	496	49.50
Impaired	...	...	...	690	68.86	460	45.90
Totally incapacitated	...	...	...	112	11.17	46	4.59
				1,002		1,002	
STAGE II.							
Unimpaired	...	...	...	129	19.02	319	47.06
Impaired	...	...	...	416	61.36	272	40.12
Totally incapacitated	...	...	...	133	19.62	87	12.83
				678		678	
STAGE III.							
Unimpaired	...	...	...	75	18.38	148	36.27
Impaired	...	...	...	184	45.10	144	35.29
Totally incapacitated	...	...	...	149	36.52	116	28.43
				408		408	

## CLASSIFICATION OF THOSE PATIENTS WHO COMPLETED A COURSE OF TREATMENT DURING THE YEAR.

During the year 417 patients completed a course of treatment, and it has been possible to classify the results in 396 instances. The results are arranged to show the changes in the weight, working capacity, condition of the disease, and the presence or absence of tubercle bacilli in the sputum before and after treatment.

Weight (after Treatment).			Working Capacity (after Treatment).		
Increased.	Diminished.	Stationary.	Improved.	Stationary.	Worse.
%	%	%	%	%	%
301 76.01	66 14.14	29 7.32	200 50.51	155 39.14	41 10.35

## CONDITION OF DISEASE.

Before Treatment.			After Treatment.					
Active.		Quiescent.	Active.	Quiescent.	Dead.			
396	$\frac{\circ}{\circ}$ 100	0	202	$\frac{\circ}{\circ}$ 51.01	191	$\frac{\circ}{\circ}$ 48.23	3	$\frac{\circ}{\circ}$ .76

## TUBERCLE BACILLI.

Before Treatment.				After Treatment.		
			$\frac{\circ}{\circ}$			$\frac{\circ}{\circ}$
Present ... ..	143		36.11	51		12.86
Not demonstrated	163		41.16	176		44.44
No sputum ...	90		22.73	169		42.67

## LABORATORY EXAMINATIONS.

During the year there were 2,858 examinations in the Laboratory at Broad Street.

GODFREY B. DIXON, M.R.C.S., L.R.C.P.,

*Tuberculosis Officer.*

## REPORT ON YARDLEY ROAD SANATORIUM.

## CITY SANATORIUM,

## YARDLEY ROAD, BIRMINGHAM.

During the past year the number of beds at Yardley Road Sanatorium has been greatly increased; prior to July, 1914, there was accommodation for 73 patients; during that month an administrative block, a pavilion with accommodation for 64 women, a pavilion with 44 beds for children, an observation block for children containing ten cubicles, and a laundry, were formally opened. At a subsequent date four observation châteaux were built; each contains two beds. Two of these châteaux are used in connection with the pavilions for male patients, the other two are for the accommodation of female patients. The total number of beds was thus increased to 199. Beds for observation purposes are used by those patients who enter the institution in order that, by careful observation and frequent examinations, etc., a definite opinion may be formed as to whether active pulmonary tuberculosis is present or not. Those in whom active disease is found are transferred to the main pavilion; others, in whom no active disease is found, return to their homes, without having been in unnecessary contact with the patients.

Beds for observation purposes in connection with the children's pavilion have the additional advantage that during the time spent under observation most of the infectious diseases to which children are liable will develop, if the child has become infected prior to admission. The observation cubicles provided by the Committee have already been of service in this direction.

The new administration block provides accommodation for the resident medical officers, the matron, and the nursing and domestic staffs; it also contains the stores, and the kitchen, where all the food, both for the patients and the staff, is cooked. From the kitchen the food is carried round to the dining rooms for men, women and, children in specially constructed trolleys. Each dining room is provided with a hot-plate, so that the food is always served hot.

## NUMBER, AGE, AND OCCUPATION OF PATIENTS.

During the year 1914 798 patients were discharged from the Sanatorium and 961 were admitted; of these 483 were males and 478 were females.

In a large manufacturing city like Birmingham it is exceedingly difficult to classify in detail all the occupations of our different patients.

In the following list the occupations of the 961 patients who were admitted during the year are broadly grouped. Only 98 males and 8 females can be returned as having outdoor occupations. The school children included are regarded as indoor workers.

Occupation.	No.	Occupation.	No.	Occupation.	No.
School children ... ..	230	Domestic workers ... ..	216	Factory workers ... ..	118
Metalworkers ... ..	51	Brass workers ... ..	39	Labourers ... ..	32
Jewellery and silver workers	26	Clerks ... ..	24	Warehouse workers... ..	23
Tailors ... ..	16	Shop assistants ... ..	14	Carters ... ..	12
Porters ... ..	12	Corporation workers ... ..	11	Metal filers ... ..	12
Printers ... ..	10	Stone masons, bricklayers, etc. ... ..	9	Plating, bronzing, and sol- dering ... ..	7
Plumbing or painting ... ..	7	Cycle trade ... ..	7	Electrical workers ... ..	6
Licensed trade ... ..	6	Bedstead workers ... ..	6	Pen workers... ..	6
Carpenters ... ..	5	Leather workers ... ..	5	Hawkers ... ..	4
Rubber workers ... ..	4	Insurance agents ... ..	4	School teachers ... ..	3
Farmwork and gardening ... ..	3	Boatmen ... ..	3	Hairdressers... ..	3
Glass workers ... ..	3	Button workers ... ..	3	Window cleaners ... ..	2
Railway men ... ..	3	Travellers ... ..	2	Packer ... ..	1
Gasfitters ... ..	2	Blacksmiths ... ..	2	Policeman ... ..	1
Greaser ... ..	1	Soldier ... ..	1	Bill poster ... ..	1
Butcher ... ..	1	Actor ... ..	1		
Surveyor ... ..	1				

The age incidence of those admitted to the Sanatorium is given in the following table:—

Age.	Males.	Females.
In 1st decade ... ..	42	51
„ 2nd „ ... ..	131	126
„ 3rd „ ... ..	99	148
„ 4th „ ... ..	108	105
„ 5th „ ... ..	73	41
„ 6th „ ... ..	22	7
„ 7th „ ... ..	8	0
Total ... ..	483	478

#### CLASSIFICATION OF PATIENTS.

Below the patients are classified in two tables according to their sex. These tables give the numbers in the different stages of the disease. They give also the numbers and percentage of those with and without tubercle bacilli in the sputum, and of those with no sputum. 79 men and 84 women still remained in the Sanatorium when these tables were made out at the end of the year, and therefore do not appear in the list.

#### MEN.

Turban-Gerhardt Stadii.	No. of Cases.	Percentage of Total No.	Tubercle Bacilli present.		Tubercle Bacilli absent.		No Sputum present.	
			Number	Percent'ge	Number	Percent'ge	Number	Percent'ge
I. ... ..	146	36·13	35	23·97	47	32·19	64	43·83
II. ... ..	143	35·39	92	64·33	32	22·37	19	13·28
III. ... ..	115	28·46	108	93·91	6	5·21	1	86
Total ... ..	404		235		85		84	

#### WOMEN.

Turban-Gerhardt Stadii.	No. of Cases.	Percentage of Total No.	Tubercle Bacilli present.		Tubercle Bacilli absent.		No Sputum present.	
			Number	Percent'ge	Number	Percent'ge	Number	Percent'ge
I. ... ..	192	48·73	35	18·22	59	30·72	98	51·04
II. ... ..	127	32·23	61	48·03	31	24·40	35	27·55
III. ... ..	75	19·03	57	76·00	8	10·66	10	13·33
Total ... ..	394		153		98		143	

## TURBAN-GERHARDT CLASSIFICATION.

*Stage I.*—Disease of slight severity, limited to small areas on either side, which in the case of infection of both apices does not extend below the spine of the scapula or the clavicle, or, in the case of affection of the apex of one lung, does not extend below the second rib in front.

*Stage II.*—Disease of slight severity, more extensive than Stage I., but affecting at most the whole of one lobe, or severe disease extending at most to the half of one lobe.

*Stage III.*—All cases of greater severity than Group II., and all these with considerable cavities.

It should be remembered that the above classification is an arbitrary one, and cannot be regarded as a scale by means of which the patient's prospects of recovery can be measured. Recovery, or the possibility of procuring quiescence of the disease depends largely upon the patient's powers of resistance, and the possibility of effectively stimulating them. An individual in Stage III. of the disease with good powers of resistance may have a better outlook than one in Stage I. who has poor resistance.

## RESULT OF SANATORIUM TREATMENT.

Very frequently residence in a sanatorium is the primary phase in the patient's treatment. Whilst he is being treated in such an institution he obtains experience and practical instruction which enable him afterwards to continue a modified form of treatment at home, in many cases, whilst following his occupation. It will be understood, then, that the figures quoted under this heading do not represent the results of a completed course of treatment, but merely record the result of a "stock-taking" when the patient is transferred from the Sanatorium to his own doctor or to the Centre.

## WEIGHT.

381 or 94.1%, of the 404 classified male patients showed a gain in weight on leaving the Sanatorium, 14 lost weight, and 9 remained stationary.

Of the total 394 classified female patients 352, or 89.34%, gained weight during their stay in the sanatorium, 39 lost weight, and 3 remained stationary.

## WORKING CAPACITY.

161 or 39.85 of the 404 classified male patients left the sanatorium with a full working capacity, whilst 152, or 37.62%, at the termination of their period of treatment, although able to undertake some work, were incapable of following their original occupation at full time. 90, or 22.27%, were quite unable to follow any occupation when they left, and one died in the sanatorium.

Of the 394 classified female patients 172, or 43.65%, left the sanatorium in a suitable condition for continuing their occupations at full time. 166, or 42.13%, when they left were unable to work full time at their own occupation, and 56, or 14.21, were quite incapable of any work; one died under treatment.

## LABORATORY WORK

During the year 798 patients were discharged from the Sanatorium; from these 1,797 specimens of sputum were examined, with the following results:—

Number of patients in whose sputum tubercle bacilli were found	...	...	388	—48.62%
Number of patients in whose sputum tubercle bacilli were not found	...	...	183	—22.93%
Number of patients without sputum	...	...	227	—28.44%

GODFREY B. DIXON, M.R.C.S., L.R.C.P.

*Medical Superintendent.*

## REPORT ON SALTERLEY GRANGE SANATORIUM, 1914.

SALTERLEY GRANGE,  
NEAR CHELTENHAM.

I beg to submit a short report on the work of this sanatorium for the year ending December 31st, 1914. Dr. Roy McGregor was Medical Superintendent until I took over the duties in September last. The report, therefore, has had to be made entirely from the records at the Sanatorium, rather than from my personal experience of the work during the whole of the year.

## ADMISSIONS.

During the twelve calendar months ending December 31st, 1914, 272 patients were admitted to this Sanatorium, of whom 150 were males and 122 females, and all of whom, excepting 65 (19 males and 46 females), were insured cases.

148 cases were admitted direct from the Tuberculosis Centre, and 74 (38 males and 36 females) were transferred from Yardley Road Sanatorium.

## AGE INCIDENCE.

					Males.		Females.
10-15 years	...	...	...	...	7	...	3
15-20 "	...	...	...	...	30	...	20
20-30 "	...	...	...	...	55	...	70
30-40 "	...	...	...	...	45	...	22
40-50 "	...	...	...	...	12	...	7
50-60 "	...	...	...	...	1	...	—
					<hr/> 150		<hr/> 122

## OCCUPATION.

The following tables give an approximate classification of the various occupations followed by the patients:—

Occupation.	No.	Occupation.	No.	Occupation.	No.
<b>MALES.</b>					
Brass workers	27	Copper worker	1	French polishers	6
Labourers	12	Carter	1	Jewellers	6
Mechanics	11	Chaff cutter	1	Packers and sorters	5
Clerks	9	Oxydiser	1	Lacquerers	4
Tin workers	7	Bartender	1	Nurses	4
Packers	7	Teacher	1	Laundrymaids	5
Agents	7	Brush maker	1	Pen workers	3
Shop assistants	6	Bootmaker	1	Tailoresses	3
Steel workers	4	Decorator	1	Button workers	2
Wire drawers	4	Sorter	1	Solderers	2
Jewellers	4	Chemist	1	Charwomen	2
Porters	3	Printer	1	Ammunition workers	2
Drillers	3	Caulker	1	Bookbinders	2
Messengers	3	Leather worker	1	Brass workers	1
Metal workers	4	Blacksmith	1	Machinist	1
Ammunition workers	3	Rubber worker	1	Box maker	1
Stampers	2	Seaman	1	Rubber worker	1
Tool makers	2	Car conductor	1	Brush maker	1
Pen makers	2	Glass worker	1	Telephonist	1
Policemen	2	Nil	1	Chain maker	1
Chocolate makers	2			Leather worker	1
Turners	2	Total	150	Bag maker	1
Fitters	1			Governess	1
Cane workers	1	<b>FEMALES.</b>		Nil	2
Wood workers	1	House workers	43		
Overseer	1	Warehouse women	11	Total	122
		Clerks	10		

				Males.		Females.
Indoor work	...	...	...	122	...	117
Outdoor work	...	...	...	28	...	5

## CLASSIFICATION OF PATIENTS.

As 74 cases were admitted direct from Yardley Road Sanatorium and a large percentage of the remainder had had previous sanatorium or out-patient treatment within a year of admission, no deductions of importance can be made from our intermediate classification; it is, however, of interest as showing the type of case treated in this Sanatorium.

Group (Turban-Gerhardt).	Cases.		
	Males.	Females.	Total.
I. (slight)	65	72	137
II. (mod. advanced)	56	33	89
III (advanced)	25	5	30
*IV.	4	12	16
	<hr/> 150	<hr/> 122	<hr/> 272

\* Recently to Turban's three Groups a fourth has been added, including those cases where no disease can be found or where the lesion is definitely proved to be obsolete.



## DISMISSALS.

During the same period 266 cases were dismissed, of whom 146 were males and 120 females.

## CONDITION OF DISEASE ON DISMISSAL.

	Males.	Females.	Total.
Much improved ... ..	42	41	83*
Improved ... ..	85	65	150
In statu quo ... ..	17	12	29
Worse ... ..	2	2	4
	<hr/> 146	<hr/> 120	<hr/> 266

\* Of 83 much improved 40 were probably arrested (15 males and 25 females), but are included in this group because absolute arrest cannot justifiably be claimed after a few months in a sanatorium.

That the clinical condition on dismissal is a most severe test of sanatorium treatment will be seen by a comparison of this table with the table of working capacity.

## WORKING CAPACITY.

	Males.	Females.	Total.
Unimpaired ... ..	118	107	225
Impaired ... ..	24	8	32
Incapacitated ... ..	4	5	9
	<hr/> 146	<hr/> 120	<hr/> 266

## WEIGHT.

Gain of weight in a sanatorium admitting a city population is always a striking feature, as shown below:—

	Males.	Females.	Total.
Weight increased ... ..	138	114	252
Stationary ... ..	3	2	5
Weight decreased ... ..	5	4	9
	<hr/> 146	<hr/> 120	<hr/> 266

Increase of weight ranged from  $\frac{1}{2}$ lb. to as much as 25lbs.

## SPECIFIC TREATMENT.

Of 266 patients dismissed 234 received inoculations of tuberculin. The type of tuberculin given was almost invariably Koch's P.T.O.

It is quite unsound to look for immediate results from short courses of tuberculin such as are given here; on the other hand the function of institutions of this type is to get the patient safely beyond the troublesome early stages of tuberculin administration, when careful observation and cautious dosage are most necessary. From this point of view the administration of tuberculin during the year has been very satisfactory; by giving P.T.O. patients are enabled to continue at the Tuberculosis Centre on a prolonged course of treatment.

Where immediate results were indicated tuberculins A.F. and B.E. were given with satisfactory results.

Experience of the administration of tuberculin in this institution has clearly proved what is not generally admitted, namely, that it is possible to give a prolonged course of tuberculin injections without interfering with the patient's usual occupation.

EDWARD G. GLOVER, M.B.,

*Medical Superintendent.*

## REPORT ON ROMSLEY HILL SANATORIUM.

HALESOWEN,

NEAR BIRMINGHAM,

*June 30th, 1915.*

The year ending 31st December, 1914, was the first complete year that Romsley Hill Sanatorium has been open. The 90 Birmingham beds have been kept fully occupied during the whole year.

As in all large institutions, there were various initial difficulties to contend with, but these have now to a very great extent been overcome, and routine treatment is proceeding smoothly.

During the year there were admitted 511 Birmingham patients, viz.:—

Insured ... ..	446
Non-insured ... ..	56
Children ... ..	9
	<hr/>
	511

During the year there were discharged 506 patients, viz. :—

Insured ... ..	446
Non-insured ... ..	54
Children ... ..	6
	<hr/>
	506

There were two deaths in the institution, both cases of advanced disease.

The average stay for Birmingham patients was 57.9 days.

In estimating improvement attention has been paid to various factors :—

- (1) Increased working capacity.
- (2) Gain in weight.
- (3) Improved general condition.
- (4) Diminution in expectoration (loss of tubercle bacilli).
- (5) Diminution in temperature and pulse rate.

The following is a summary of the year's work :—

	Improved.	Not Improved.	Discontinued Treatment.	Died. *
Insured Males ... ..	253	14	39	1
Non-insured Males ... ..	3	0	6	0
Insured Females ... ..	123	9	7	1
Non-insured Females ... ..	43	3	4	0
	<hr/>	<hr/>	<hr/>	<hr/>
	422	26	56	2

or expressed in percentage :—

Improved ... ..	83.41
Not improved ... ..	5.13
Discontinued treatment ... ..	11.06
Died ... ..	.4
	<hr/>
	100.00

The percentage of those who discontinued treatment seems large, and this is due to the fact that at the beginning of the year there was some trouble in discipline, and 30 patients were dismissed.

*Bacteriology.*—During the year there were 710 examinations of sputum made in the Sanatorium Laboratory, with the following results :—

Tubercle bacilli present ... ..	233
„ absent ... ..	477
	<hr/>
	710

In addition many other examinations of physiological and pathological specimens were made. Latterly the Ellerman method has been tried with good results, and tubercle bacilli were found in specimens which otherwise seemed negative.

Tuberculin treatment is being employed with satisfactory results.

The age incidence of those admitted to the Sanatorium is as follows :—

	Years	10-15	16-19	20-29	30-39	40-49	50-59	Total.
Males	...	5	22	102	105	72	11	327
Females	...	8	24	84	51	14	3	184
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
		13	46	186	166	86	14	511

Appended are particulars as to the occupations of the patients admitted.

MALES.		Occupation.		No.	Occupation.		No.
Occupation.	No.						
Labourers	35	Toolmakers	...	10	Storekeeper	...	5
Brassworkers	30	Electricians	...	9	Bedstead casters	...	5
Jewellers	13	Rubber workers	...	8	Clerks	...	5
Carters	13	Wood workers	...	8	Electro-platers	...	5
Fitters	12	Painters	...	6	Metal polishers	...	5
Blacksmiths and Strikers	10	Cycle polishers	...	6	Plumbers and gasfitters	...	4
		Iron workers	...	8	Grinders	...	4



## INSPECTION OF COWS AND COWSHEDS IN THE CITY.

During the year 1914 the inspection of cows and cowsheds has been systematically carried out by the Veterinary Staff. The following table shows the number of cow-keepers, farms, sheds and cows at present in the City.

Cowkeepers.	Farms.	Sheds.	Cows.
157	186	360	2,244

During the year 19 cowkeepers have discontinued keeping cows, and 18 cowkeepers have applied and been put on the list for registration to keep cows for the sale of milk in the City.

There have been 2,909 visits of inspection paid to cowsheds in the City area. At each visit, the Veterinary Inspector examined the cowsheds as to sanitation, cleanliness and structural fitness, and wherever sheds were found to be defective in any of these respects, the occupier was notified, and instructed to remedy them. While the majority readily complied, a number required strong persuasion, and one or two had to be threatened with legal proceedings before the necessary alterations were effected.

At each visit the Inspector also carefully examined the cows individually as regards their cleanliness and state of health, and paid very particular attention to the condition of their udders.

There were six cases of cows found affected with catarrhal mastitis or inflammation of the udder. The milk from these cows was prohibited from sale either temporarily or permanently according to the case.

The condition of the cowsheds and the cleanliness and health of the cows inspected during the year were on the whole fairly satisfactory. At the same time it has to be admitted that in many cases there is room for a greater degree of cleanliness. A special effort has been made to induce the dairy farmers to pay more attention to the better cleansing of the cows immediately before milking, and the farmers have been circularised, bringing to their notice the much greater degree of the cleanness of the milk where washing the cows' udders, etc., and men's, hands are systematically and carefully carried out before milking than where this is not the case. The benefit of effective cleansing is most marked in summer when milk quickly sours. In practice, it is found that the cleaner the milk the longer is souring delayed.

## TUBERCULOSIS AND THE MILK SUPPLY.

The effort to reduce the amount of tubercle infection in the milk sold in the City, has been continued on the lines of previous years, viz. :—

(a) The detection of cows with tuberculosis of the udder or cows giving tubercle infection in their milk, and the removal of such from the dairy.

(b) The eradication of tuberculosis from the dairy herds supplying milk to the City.

## INFECTED MILKS.

In connection with the detection of infected milk, milk samples have been taken as follows :—

	At Farm.	At Station.	At Hospital.	Total.	Infected.
Mixed Samples taken from Out- side Dairies ... ..	5	61	6	72	8
Ditto City Dairies ... ..	22	—	—	22	2
Individual Samples from Outside Dairies ... ..	27	—	—	27	9
Ditto City Dairies ... ..	42	—	—	42	2
	<hr/> 96	<hr/> 61	<hr/> 6	<hr/> 163	<hr/> 21

The milk samples from individual cows in outside dairies found infected were obtained by examining the individual cows in outside dairy herds whose mixed milk supply was found infected.

From the above table it will be seen that altogether eleven individual cows have been found giving tubercle infection in their milk, nine of these have been killed, and two dried off, with a view to their being fed and subsequently slaughtered.

With respect to the mixed samples from outside districts it may be said that two of those taken at the farm were a duplication of two previously taken at the station.

#### ERADICATION OF TUBERCULOSIS FROM DAIRY HERDS.

During the year, 22 herds were dealt with, and 20 of these, numbering 610 cows, were free at the end of the year, three herds numbering 121 cows were being freed, and three herds numbering 32 cows were in suspense.

In four instances the testing has been discontinued; in one case the owner ceased selling milk; in two instances the owners deemed the procedure involved too much trouble; in the fourth instance the first test revealed so many reactors that the procedure was not continued, 78% having failed to pass the test.

The following tabulated list shows the particulars of the herds dealt with:—

Herd.	Approximate No. of Cows in Herd.	Herds being dealt with during 1914.	Herds Free.	Herds being Freed.	Suspense.	Breeding Herds.	Non-breeding Herds.	Mixed Breeding and Non-breeding Herds.	Herds discontinued.	City Dairies.	Outside Dairies.
No. 1	32	1	1	—	—	—	—	1	—	1	—
„ 2	80	1	1	—	—	—	—	1	—	—	1
„ 3	27	1	1	—	—	1	—	—	—	1	—
„ 4	36	1	1	—	—	—	1	—	—	1	—
„ 5	10	1	1	—	—	—	—	1	—	—	1
„ 6	20	1	1	—	—	—	1	—	—	1	—
„ 7	35	1	1	—	—	—	—	1	—	—	1
„ 8	68	1	1	—	—	—	—	1	—	—	1
„ 9	23	1	1	—	—	1	—	—	—	—	1
„ 10	40	1	1	—	—	1	—	—	—	—	1
„ 11	32	1	1	—	—	—	—	1	—	1	—
„ 12	42	1	—	1	—	—	—	1	—	—	1
„ 13	12	1	1	—	—	—	1	—	—	—	1
„ 14	26	1	1	—	—	1	—	—	—	—	1
„ 15	20	1	1	—	—	1	—	—	—	—	1
„ 16	25	1	1	—	—	1	—	—	—	—	1
„ 17	12	1	1	—	—	—	—	1	—	—	1
„ 18	35	1	—	1	—	1	—	—	—	—	1
„ 19	17	1	1	—	—	1	—	—	—	—	1
„ 20	52	1	1	—	—	1	—	—	—	—	1
„ 21	18	1	1	—	—	1	—	—	—	—	1
„ 22	44	1	—	1	—	—	—	1	—	—	1
„ 23	25	1	1	—	—	—	—	1	—	—	1
„ 24	1	1	—	—	1	—	—	—	—	—	1
„ 25	25	1	—	—	1	—	—	—	—	—	1
„ 26	6	1	—	—	1	—	—	—	—	—	1

#### COWS TESTED.

The testing of the above herds has been carried out half-yearly. The results of the testing show that breeding dairy herds into which only young heifers are

introduced are more free from tuberculosis at the first test, and further, that such herds can be maintained in a tubercle free state much more easily and economically than herds which are kept up by the purchasing of mature milking cows.

From the tabulated list below it will be seen that 1,383 cows were tested during the year, of which 1,141 passed and 242 failed to pass test.

No.					Tested.	Passed.		Failed (Reacters and Doubtful).	
1	...	...	...	...	77	...	70	...	7
2	...	...	...	...	221	...	179	...	42
3	...	...	...	...	35	...	31	...	4
4	...	...	...	...	72	...	48	...	24
5	...	...	...	...	14	...	10	...	4
6	...	...	...	...	13	...	9	...	4
7	...	...	...	...	77	...	73	...	4
8	...	...	...	...	152	...	146	...	6
9	...	...	...	...	42	...	39	...	3
10	...	...	...	...	113	...	106	...	7
11	...	...	...	...	41	...	35	...	6
12	...	...	...	...	58	...	53	...	5
13	...	...	...	...	28	...	19	...	9
14	...	...	...	...	28	...	20	...	8
15	...	...	...	...	28	...	20	...	8
16	...	...	...	...	36	...	25	...	11
17	...	...	...	...	25	...	25	...	—
18	...	...	...	...	43	...	29	...	14
19	...	...	...	...	77	...	51	...	26
20	...	...	...	...	19	...	17	...	2
21	...	...	...	...	93	...	75	...	18
22	...	...	...	...	28	...	27	...	1
23	...	...	...	...	31	...	21	...	10
24	...	...	...	...	1	...	1	...	—
25	...	...	...	...	25	...	6	...	19
26	...	...	...	...	6	...	6	...	—
					1,383	1,141		242	

The eows which failed were in most cases cows which were purchased subject to passing the test, and having failed were returned to the vendors. The doubtful reactors already in the herd were isolated and retested a month subsequently; approximately 50% of these eventually passed.

The newly-purchased and other eows tested for the first time last year numbered 241. Of these 51—21·16% reacted, and 12—4·98% were doubtful; *i.e.*, 63 or 26·1% failed to pass the test as compared with a percentage of 32·4 last year.

#### COST INCURRED BY TESTING HERDS.

The testing of the herds was carried out partly by the Corporation Veterinary Officers, and partly by the dairyman's own Veterinary Surgeon acting on behalf of the Corporation. The herds dealt with are visited periodically to see that the reactors are isolated from the free, that the cows in the free herds have been properly looked after, and that the hygienic regulations are complied with.

The extra cost of this work during the year was £168 3s. 7d., of which £30 9s. 8d. was for tuberculin, and £137 13s. 11d. for Veterinary fees and expenses. In 1913 the extra cost was £167 0s 0d.

Yours faithfully,

JOHN MALCOLM,  
*Chief Veterinary Officer.*

## OPEN-AIR INSTITUTIONS IN BIRMINGHAM.

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Within quite recent years the great value of treatment in the open air for a number of different diseases has become apparent, and in Birmingham there are now several institutions either erected or adapted to permit all or a proportion of the patients being treated in this way.

The photographs on this and following pages show some of the arrangements at

- (1) Salterley Grange Sanatorium.
- (2) Yardley Road Sanatorium.
- (3) The Woodlands Crippled Children's Home.
- (4) The Women's Hospital.
- (5) The Queen's Hospital.
- (6) The Children's Hospital.
- (7) Romsley Hill Sanatorium.



*1.—Section of open-air Sanatorium at Salterley Grange opened in 1909. Here cases of tuberculosis are treated all the year round in the open air, the rooms being for the most part needed during wet or doubtful weather only. Colds or ill effects of the open air are unknown under these conditions.*



*II.—Section of Yardley Road Sanatorium, where equally good results are obtained in the air of Birmingham. Note that the tuberculosis patients are treated in an open shed capable of giving protection from rain and snow only. There are comfortable dressing rooms immediately in the rear.*



*III.—View of open-air shed at The Woodlands, where from 70 to 90 crippled children, mostly tubercular, are nursed all the year round without any front to the shed and without fires. These children rapidly improve in health and suffer no inconvenience from the exposure.*





*IV.—View of part of the Women's Hospital devoted to the treatment of puerperal fever. It is the severest cases which are treated on this verandah, both day and night, with results which more than justify the adoption of this simple arrangement.*



*V.—View of open-air roof ward at the Queen's Hospital, on which there are large demand by the physicians of the Hospital.*



*VI.—View of part of the new building of the Children's Hospital (not yet opened) to show the arrangement for open-air treatment for all the children and the provision of shelter while dressing is going on.*



*VII.—View of part of Romsley Hill Sanatorium showing patients on the verandah. The site is very exposed, but the results are excellent.*

## SYPHILIS.

There were 44 deaths recorded as directly due to this disease against 45 last year. Although the general public exaggerate the prevalence of this class of disease in a way which is obviously inaccurate, there is no doubt but that few medical men can at present afford to certify this as the cause of death.

The Public Health Committee issued in October the following circular letter to each medical practitioner in the City:—

“PUBLIC HEALTH AND HOUSING DEPARTMENT,

“THE COUNCIL HOUSE, BIRMINGHAM,

“October, 1914.

“Dear Sir (or Madam),

“DIAGNOSIS OF SYPHILIS.

“The Public Health and Housing Committee has decided to place at the disposal of the members of the medical profession, free of charge, means for the diagnosis of Syphilis by the Wassermann reaction under conditions which I hope will prove convenient. For those medical men who desire to take the sample of blood themselves and forward it for examination, sterile bottles will be supplied, to enable them to take at least 5 c.c. of the blood and send it to me.

“Owing to the difficulty in getting good specimens of blood the Committee has arranged with Dr. E. W. Assinder to take the blood sample if desired, and to carry out the necessary test. For this purpose Dr. Assinder has taken Consulting Rooms at No. 22 Broad Street, and any patient whom you would like to have examined by him will be seen by appointment at his rooms, under what I think will be the best possible conditions.

“The cases in which a Wassermann reaction will prove the most useful are suspected cases of:—

- (a) Syphilis in Primary Stage ;  
Secondary Stage ;  
Tertiary Stage ;
- (b) Congenital Syphilis.

“It will be most useful if, in sending the case for examination, a note is sent giving (a) the provisional diagnosis and (b) as to whether any anti-syphilitic treatment has been received by the patient.

“If you desire such an examination to be made I should be glad if you would send to Dr. Assinder or myself one of the enclosed cards. An appointment will then be made with your patient and a report sent later to you direct as to the result of the examination. It is very important that these examinations should be made in strict confidence, and I should be obliged, therefore, if when sending me the card you would put it in a closed envelope.

“Yours faithfully,

“JOHN ROBERTSON.”

Between the time of its issue and December 31st, 39 cases were sent to Dr. Assinder, of which 29 were positive, and 10 negative.

## CANCER.

The Birmingham figures are as follows:—

## MORTALITY FROM CANCER.

	No. of Deaths.	Death-rate in Birmingham.	Death-rate in England and Wales.
1901 ...	552	.73	.84
1902 ...	530	.68	.85
1903 ...	592	.76	.87
1904 ...	578	.74	.88
1905 ...	643	.81	.89
1906 ...	664	.83	.92
1907 ...	645	.80	.91
1908 ...	702	.85	.93
1909 ...	678	.82	.96
1910 ...	737	.89	.97
1911 ...	748	.89	.99
1912 ...	791	.93	1.02
1913 ...	893	1.02	1.05
1914 ...	773	.88	—

Of the 773 deaths 520 were ascribed to carcinoma, 41 to sarcoma, 34 to epithelioma, 3 to schirrhus, 7 to rodent ulcer, and 168 cancer not defined.

#### CANCER MORTALITY AT AGES.

	Males.	Females.
Under 25 years ... ..	.04	.01
25 and under 35 years ... ..	.11	.05
35 " 45 " ... ..	.32	.83
45 " 55 " ... ..	2.10	2.33
55 " 65 " ... ..	4.57	4.41
65 " 75 " ... ..	7.19	6.85
75 and upwards ... ..	8.11	8.92

The local distribution of cancer indicates that no part of the City appears to escape.

#### DEATH-RATES FROM CANCER.

	1914	
Central Wards...	St. Paul's ... ..	.97
	St. Mary's ... ..	.76
	Duddeston and Nechells ... ..	.73
	St. Bartholomew's ... ..	.82
	St. Martin's and Deritend ... ..	1.20
	Market Hall ... ..	.99
	Ladywood ... ..	.86
	Average—	1913, 1.05 1914, .90
Middle Ring ...	Lozells... ..	.66
	Aston ... ..	.84
	Washwood Heath ... ..	.80
	Saltley... ..	.76
	Small Heath ... ..	.68
	Sparkbrook ... ..	.61
	Balsall Heath ... ..	1.10
	Edgbaston ... ..	1.30
	Rotton Park ... ..	1.09
All Saints' ... ..	.86	
	Average—	1913, 1.04 1914, .87
Outer Ring ...	Soho ... ..	1.21
	Sandwell ... ..	.95
	Handsworth ... ..	.86
	Erdington North ... ..	.87
	Erdington South ... ..	.57
	Yardley ... ..	.48
	Acock's Green ... ..	1.04
	Sparkhill ... ..	1.01
	Moseley and King's Heath... ..	1.19
	Selly Oak ... ..	.57
	King's Norton ... ..	.64
	Northfield ... ..	.51
Harborne ... ..	1.02	
	Average—	1913, .95 1914, .84

The parts of the body affected are shown in the table on opposite page.

From this table it will be noted that the mortality from cancer of the mouth is very much higher in men than in women, 45 to 5 in 1914, and 58 to 5 in 1913.

Again males predominate in cancer of the stomach, liver, etc., and in cancer of "other organs," while on the whole number of deaths women suffer in the proportion of 435 women to 338 men in 1914, and 499 women to 394 men in 1913. Cancer of the reproductive organs and the breast caused 154 deaths, and, therefore accounted for more than the excess of female deaths from all forms of cancer.

## DEATHS FROM CANCER IN 1914.

Ages.	Mouth.			Stomach, Liver, &c.			Peritoneum, Intestine, etc.			Female Organs of Reproduction.			Breast.			Skin.			Other Organs.			Total.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Under 1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1	—	1
1 -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	1	4	3	1	4
5 -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10 -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	2	1	1	2
15 -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20 -	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	2	—	2	3	1	4
25 -	—	—	—	2	—	2	4	—	4	—	—	—	—	—	—	—	—	—	2	1	3	8	4	12
35 -	2	—	2	5	12	17	4	9	13	—	—	—	—	—	—	—	—	—	8	3	11	19	52	71
45 -	11	2	13	37	21	58	17	24	41	—	—	—	—	—	—	—	—	—	17	7	24	82	99	181
55 -	15	—	15	38	37	75	27	28	55	—	—	—	—	—	—	—	—	—	26	10	36	108	118	226
65 -	13	2	15	37	47	84	16	22	38	—	—	—	—	—	—	—	—	—	18	12	30	85	108	193
75 -	4	1	5	14	7	21	5	19	24	—	—	—	—	—	—	—	—	—	4	6	10	27	48	75
85 -	—	—	—	—	1	1	—	1	1	—	—	—	—	—	—	—	—	—	1	—	1	1	3	4
All Ages	45	5	50	133	125	258	74	103	177	—	92	92	62	62	124	83	41	124	338	435	773	338	435	773

## ACUTE ANTERIOR POLIOMYELITIS.

During 1914 sixteen cases of this serious disease were reported, with one death, as compared with 18 cases and 5 deaths in 1913. In about one half of the cases some permanent paralysis followed. As in the case of cerebro-spinal meningitis, all of the reported cases were under 15 years of age—12 being under five years.

## CEREBRO-SPINAL FEVER.

Ten cases of this disease were reported during 1914 as compared with 6 in the previous year.

The ages of those attacked were as follows:—0-1 year, 3 cases and 2 deaths; 1-5 years, 4 cases and 1 death; 5-10 years, 1 case and 1 death; and 10-15 years, 2 cases and 2 deaths. In none of the cases in which recovery took place was there any permanent paralysis.

The cases were distributed during the year as follows:—January, 1 case; April, 2 cases; June, 1 case; July, 1 case; September, 3 cases; November, 1 case; and December 1 case. From this it will be evident that nothing in the way of an outbreak occurred during 1914. It was impossible to trace any connection between the cases.

## BRONCHITIS AND PNEUMONIA.

Deaths from these two causes are more numerous in town areas than in rural areas. Together there were 2,199 deaths, 1,109 from bronchitis, and 1,090 from pneumonia in 1914.

From the following table it will be noted that there has been a continuous decline in deaths from bronchitis and pneumonia even at a greater rate than has occurred in the rest of England and Wales.

## DEATH-RATES FROM BRONCHITIS AND PNEUMONIA.

	BRONCHITIS.		PNEUMONIA.		
	Birmingham.	England and Wales.	Birmingham.	England and Wales.	
1901 ...	1.80	1.37	1.55	1.15	Average 1.27
1902 ...	1.64	1.32	1.46	1.41	
1903 ...	1.46	1.11	1.32	1.22	
1904 ...	1.76	1.25	1.49	1.28	
1905 ...	1.43	1.14	1.37	1.30	
	Average 1.62		Average 1.44		
1906 ...	1.38	1.04	1.32	1.22	Average 1.24
1907 ...	1.49	1.22	1.47	1.35	
1908 ...	1.47	1.10	1.22	1.19	
1909 ...	1.47	1.15	1.36	1.30	
1910 ...	1.24	0.96	1.15	1.11	
	Average 1.41		Average 1.30		
1911 ...	1.25	1.00	1.16	1.04	
1912 ...	1.26	1.08	1.20	1.02	
1913 ...	1.20	1.06	1.13	1.02	
1914 ...	1.26	—	1.24	—	

The distribution of deaths indicates the important part played by social conditions in determining fatal bronchitis and pneumonia.

## DEATH-RATES FROM BRONCHITIS AND PNEUMONIA, 1914.

				Bronchitis.	Pneumonia.	Total.	
Central Wards	St. Paul's	...	...	1.98	1.88	3.86	Average— 1913, 3.83 1914, 4.32
	St. Mary's	...	...	2.47	2.63	5.10	
	Duddeston and Nechells	...	...	2.53	1.99	4.52	
	St. Bartholomew's	...	...	2.45	2.32	4.77	
	St. Martin's and Deritend	...	...	2.26	2.05	4.31	
	Market Hall	...	...	1.58	2.16	3.74	
	Ladywood	...	...	2.00	1.93	3.93	
Middle Ring	Lozells...	...	...	.89	.89	1.78	Average— 1913, 2.14 1914, 2.08
	Aston	...	...	1.56	1.73	3.29	
	Washwood Heath	...	...	.92	1.01	1.93	
	Saltley...	...	...	.94	1.12	2.06	
	Small Heath	...	...	.68	.48	1.16	
	Sparkbrook	...	...	.89	.97	1.86	
	Balsall Heath	...	...	1.13	.78	1.91	
	Edgbaston	...	...	.60	1.26	1.86	
	Rotton Park	...	...	1.27	1.04	2.31	
All Saints'	...	...	1.41	1.23	2.64		
Outer Ring	Soho	...	...	.92	.96	1.88	Average— 1913, 1.19 1914, 1.40
	Sandwell	...	...	1.16	.47	1.63	
	Handsworth	...	...	.64	.82	1.46	
	Erdington North	...	...	1.18	.74	1.92	
	Erdington South	...	...	.74	.68	1.42	
	Yardley	...	...	.79	.67	1.46	
	Acock's Green	...	...	.63	1.18	1.81	
	Sparkhill	...	...	.57	.49	1.06	
	Moseley and King's Heath	...	...	.58	.73	1.31	
	Selly Oak	...	...	.46	.57	1.03	
	King's Norton	...	...	.68	.41	1.09	
Northfield	...	...	—	1.03	1.03		
Harborne	...	...	.51	.57	1.08		

Both diseases have several types, and these occur at special ages. It is generally not the same type which occurs among the young as in the older people.

## AGES AT DEATH.

							Bronchitis.	Pneumonia.
Under 5 years	...	...	...	...	...	...	268	596
Between 5 and 15 years	...	...	...	...	...	...	10	43
„ 15 and 25	„	...	...	...	...	...	7	24
„ 25 and 35	„	...	...	...	...	...	12	57
„ 35 and 45	„	...	...	...	...	...	35	79
„ 45 and 55	„	...	...	...	...	...	84	78
„ 55 and 65	„	...	...	...	...	...	174	83
„ 65 and 75	„	...	...	...	...	...	279	76
„ 75 and 85	„	...	...	...	...	...	196	47
85 years and over	...	...	...	...	...	...	44	7

## PUERPERAL FEVER.

This disease is difficult to define, consequently there is still much diversity in the practice of medical men in notifying cases.

The provision which the Public Health and Housing Committee has arranged for at the Women's Hospital, part of which is shown in the illustration on page 63, has been the means of bringing good skilled treatment to practically every serious case of the disease, and this has been the main reason why more cases are now reported.

Many women used formerly to have to lie in filthy septic beds suffering from puerperal fever, one of the most severe types of illness. It was difficult to get a skilled nurse to go to them, for such attendance prevented attendance on others, and similarly, in cases where midwives were in attendance, it was even more difficult to get medical help, for such often entailed serious loss of reputation, as well as heavy financial loss on the doctor. Most of these patients refused to apply to the Guardians for treatment in an Infirmary, with a result that their suffering was great and the chance of a satisfactory recovery not very good.

The improvement in the prospects of these women which has occurred since the Public Health Committee arranged to pay for their treatment in the new ward at the Women's Hospital is quite remarkable.

It is now easy to get a woman in distress into the hospital at once. The authorities have been able to take everybody sent in. In a good many cases the Corporation provides the ambulance for their removal.

Unfortunately the provision at the Women's Hospital affects the question of treatment only without lessening the total number of cases of the disease.

With, however, the gradual substitution of a better class of midwives, and their more careful regulation and inspection by the Lady Inspector appointed by the Corporation, it is to be hoped that the disease will decrease.

A great deal yet requires to be done in the matter of the training of midwives. At present their training in the technical part of their work is probably sufficient, but in nursing, in asepsis and in discipline generally, much will have to be done before a reasonably good staff will exist.

During 1914 there were 149 cases notified of puerperal fever. On examination it was found that some of these cases occurred among mothers who had given birth to full-time babies, others among mothers who had had still-births, while others followed miscarriages.

				Cases of Puerperal Fever	Deaths from Puerperal Fever.
Total number of live births, 1914	...	...	...	23,207	88
Still-births reported by Midwives	...	...	...	324	7
Still-births attended by Medical Practitioners...	...	...	...	?	2
Miscarriages ... ..	...	...	...	?	52
					9

As regards the live births, one mother in every 264 contracted puerperal fever in 1914.

Among still-births attended by midwives 1 in 46 had Puerperal Fever.

Among mothers of live born babies 1 in every 1,160 died of puerperal fever.

Of the 114 cases removed to the Women's Hospital during 1915, the stay in hospital averaged 15 days among the cases who died, and 30 days among the cases who recovered, the longest period being 152 days. The average stay of the 114 cases was 27 days.

Twelve women were sent to the Convalescent Home before discharge.

It will be noted from the illustration on page 63 that a large number of these women are treated in an open air balcony, and, as in the case of other septic diseases, the results are reported by doctors, nurses, and patients to be distinctly satisfactory—more so than treatment in an airy ward.



## MIDWIVES ACT, 1902.

During the year 1914 253 midwives notified their intention to practise in this City. Of these 174 were admitted to the roll by reason of their having been in *bona fide* practice prior to the passing of the Midwives Act, 1902. The remaining 79 held certificates of training in midwifery recognised by the Central Midwives Board, 21 of them being midwives who have commenced work in Birmingham during 1914.

The midwives attended 15,664 births during the year, or nearly 70 per cent. of the total number.

The number of cases attended by the 253 midwives was as follows:—

Less than 50 births	...	...	...	...	111 midwives.
Between 50 and 100 births	...	...	...	...	52 „
Between 100 and 150 births	...	...	...	...	29 „
Between 150 and 200 births	...	...	...	...	15 „
Over 200 births	...	...	...	...	16 „
Monthly Nursing only	...	...	...	...	15 „
Temporarily employed here	...	...	...	...	6 „
Unable to take cases owing to illness	...	...	...	...	7 „
Midwives in Institution	...	...	...	...	2 „
					253 „

The births attended by doctors and midwives were approximately as follows:—

Total births	...	...	...	...	...	23,207
Births attended by Midwives	...	...	...	...	...	15,664
Births in Maternity Hospital	...	...	...	...	...	395
Births in Dudley Road Infirmary	...	...	...	...	...	176
Births in Erdington Infirmary	...	...	...	...	...	83
Births in Selly Oak Infirmary	...	...	...	...	...	56
Births in other Institutions	...	...	...	...	...	64
Births attended at home by Doctor or otherwise	...	...	...	...	...	6,769

The Insurance Act has caused many more births to be attended by midwives than formerly. A very considerable number of doctors now decline midwifery. While formerly about 50 per cent. of the births were attended by midwives, the number last year rose to 70 per cent.

During the year 26 Midwives have given up practice for various reasons, viz.:—

Removed from district	...	...	...	...	...	5
Given up through ill-health	...	...	...	...	...	6
Given up through old age	...	...	...	...	...	1
Died	...	...	...	...	...	2
Gone to other work	...	...	...	...	...	3
Removed from Midwives Roll	...	...	...	...	...	3
Temporarily employed	...	...	...	...	...	6

One thousand three hundred and fifty-eight reports have been received from midwives who have advised medical assistance. The reasons why midwives had to call in medical help during 1914 are set out in the following table:—

## (a) ILLNESS OF MOTHER.

Delayed or difficult labour ...	242	Unsatisfactory progress ...	27
Hæmorrhage ...	222	Debility of mother ...	11
Abnormal presentation ...	110	Abdominal pain, etc. ...	9
Adherent or retained placenta ...	67	Exhaustion ...	6
Lacerated perineum ...	110	Phlegmasia alba dolens ...	6
Contracted pelvis ...	12	Still-births ...	7
Eclampsia ...	7	Excessive sickness ...	2
Inflamed breast ...	7	Twin birth ...	11
Breech presentation ...	15	Bronchitis (mother) ...	17
Inflamed veins ...	5	Albuminuria ...	1
Varicose veins ...	2	Hæmorrhoids ...	1
Rheumatism ...	4	Epileptic fit ...	1
Hysteria ...	4	Gastric ulcer ...	1
Premature birth ...	48	Vaginal discharge ...	1
Collapse ...	7	Heart trouble ...	4
Rapid pulse ...	2	Pleurisy ...	1
Pneumonia ...	2	Quinsy ...	1
Abortion or miscarriage ...	11	Dropsy ...	1
High temperature ...	76		

## (b) ILLNESS OF CHILD.

Ophthalmia Neonatorum ...	222	Asphyxia ...	1
Debility of child ...	132	Umbilical hæmorrhage ...	2
Skin eruptions ...	15	Inflamed umbilicus ...	1
Injury to child ...	6	Jaundice ...	10
Cleft Palate and Harelip ...	8	Bronchitis (infant) ...	3
Deformed child ...	17	Imperforate anus ...	1
Spina bifida ...	5	Retention of urine ...	3
Pemphigus ...	14	Swelling of scrotum ...	1
Convulsions... ...	14	Child passing blood ...	1

Other reports from midwives have been received, 48 notifying the death of the infant before the arrival of medical assistance, two the sudden death of the mother, and eight the laying out of a dead body.

Three hundred and twenty-four still births were notified during the year. The condition of the infant was inquired into and found to be as follows:—

CONDITION OF CHILD AND PRESENTATION.	Total Still-births.	PERIOD OF GESTATION.				
		Full Time.	8 months.	7 months.	6 months.	Under 6 months.
Macerated ...	141	64	28	39	8	2
Not macerated ...	183	106	25	40	12	—
Vertex ...	243	130	43	53	16	1
Breech ...	40	21	7	9	2	1
Footling ...	25	13	—	10	2	—
Transverse ...	7	4	1	2	—	—
No information ...	9	2	2	5	—	—

Sixty-two midwives were suspended during the year under review for the following causes:—

- For puerperal fever in 52 instances.
- For scarlet fever in 2 instances.
- For pemphigus neonatorum in 5 instances.
- For erysipelas in 1 instance.
- For diphtheria in 2 instances.

It will be seen that several midwives had pemphigus in their practice. The midwives were suspended and their apparatus disinfected, and apparently no further cases occurred.

During the year the following breaches of the Act or rules have been dealt with by the Public Health Committee:—

*March 23rd, Midwife No. 355.*—Charged with extreme negligence. The Committee decided to report this midwife to the Central Midwives Board, and subsequently her name was removed from the roll, and her certificate cancelled.

*October 9th, Midwife No. 645.*—Charged with neglect, etc. The Committee decided in this case also to report the facts to the Central Midwives Board, and later her certificate was cancelled.

The following midwife was cautioned for breaches of the rules, etc.:—

*February 18th, Midwife No. 3653.*—For failing to notify cases and for keeping an incorrect register of cases.

### OPHTHALMIA NEONATORUM.

The City Council, by resolution 21306, dated March 7th, 1911, added this disease to the list of those to be compulsorily notified under the Infectious Disease (Notification) Act, 1889.

On February 5th, 1914, the Local Government Board, by reason of the powers contained in Sec. 130 of the Public Health Act, 1875, made regulations entitled "The Public Health (Ophthalmia Neonatorum) Regulations, 1914," which among other matters require all medical practitioners and certified midwives to notify cases of ophthalmia forthwith.

Notification in Birmingham has been very well done, as evidenced by the check which exists in the visitation under the Notification of Births Act of three-quarters of the babies born in the City.

Subsequent visitation of the notified cases has been also extremely well done, and has been the means of ensuring that treatment is obtained for nearly every baby who has inflamed eyes.

The Order defines Ophthalmia Neonatorum as a purulent discharge from the eyes of an infant commencing within twenty-one days from the date of its birth, consequently all cases of inflammation of the conjunctiva in new-born infants are notified. This gives a somewhat fallacious idea of the prevalence of the disease, for by far the greater number of cases are of trivial importance, and would get well without treatment. It has been said that all cases of Ophthalmia Neonatorum are gonorrhœal in their origin; but this is not correct as regards our notified cases.

In forty severe cases Dr. Cargin took a culture from the infant's eye, and found the organism of gonorrhœa in ten instances. One in four cases would not, however, fairly represent the prevalence of the gonococcus in ophthalmia cases, for few, if any, of the cases examined were mild ones.

Every case is promptly visited on receipt of the notification, and every case is visited again at the termination of treatment.

A great many cases are visited at frequent intervals to see that treatment is carried out or to assist the mother in the treatment. This work has been admirably and energetically performed by the Health Visitors' Staff, controlled by the Assistant Medical Officers of Health.

In 1914 there were 395 cases notified, as against 222 in 1913. In a few of these cases no information concerning the circumstances could be obtained.

In the year under review one case of ophthalmia occurred among every 59 births.

Treatment was given at the following places :—

	1913.	1914.
Eye Hospital ... ..	153	231
Maternity Hospital ... ..	9	25
General Hospital ... ..	1	3
Other Hospitals ... ..	0	2
General Infirmary ... ..	2	5
Private Practitioners ... ..	52	116
No treatment ... ..	0	7

This indicates that 67 per cent. of the cases in 1914 were receiving treatment in Public Hospitals.

It is gratifying to be able again to report that The Birmingham and Midland Eye Hospital has thrown wide its doors to these cases. The Health Department has been able to inform the poorer patients that the hospital will see for the first time cases of ophthalmia at any hour of the day, and without note or payment. This insures treatment being available for all.

There is occasionally a difficulty in getting infants taken to hospital or to a doctor, and there is a similar difficulty in getting special treatment carried out. This is due to the fact that the infant's mother has not sufficiently recovered from her confinement, or is afraid to properly douche the eyes. In most of these cases the Health Visitor has been able to make arrangements that meet the difficulty.

The cases may be divided into three groups :—

- |   |     |
|---|-----|
| (1) Those that removed out of town, or died from intercurrent illness before the completion of treatment ... .. | 37  |
| (2) Those in which some permanent injury to sight followed the attack ... ..                                    | 5   |
| (3) Those in which complete recovery followed ... ..  | 351 |

One case has not yet recovered, and in one information was refused.

The following is a list of cases belonging to Group 2 :—

Register No.	No. of Children.	Day Treatment Commenced.	Birth attended by Doctor or Midwife.	Eyes treated by Private Doctor or Hospital.	Condition of Eyes at completion of treatment.
7	1st	15th	Midwife ...	Eye Hospital	Right eye :—No sight. Left eye :—Sight normal.
30	6th	2nd	Midwife ...	Eye Hospital	Both eyes :—Lids slightly defective.
175	1st	Same day	Midwife ...	Eye Hospital ...	Right eye :—Sight normal. Left eye :—No sight.
193	1st	7th	Doctor and Midwife ...	Eye Hospital ...	Right eye :—Sight normal. Left eye :—Sight slightly defective.
224	1st	2nd	Doctor and Midwife ...	Eye Hospital ...	Right eye :—Sight normal. Left eye :—Sight slightly defective.

Of the 351 cases in Group 3, all of whom got well, the condition was acute in 74 cases.

Of these 74 babies who had acute eye inflammation the number in the family was as follows :—

1st child	...	...	...	...	...	...	...	...	21
2nd "	...	...	...	...	...	...	...	...	16
3rd "	...	...	...	...	...	...	...	...	12
4th "	...	...	...	...	...	...	...	...	4
5th "	...	...	...	...	...	...	...	...	9
6th "	...	...	...	...	...	...	...	...	3
7th "	...	...	...	...	...	...	...	...	4
8 or more	...	...	...	...	...	...	...	...	5

Similarly of the remaining 276 infants in Group 3 who had not a severe inflammation the following shows the position of the child :—

1st child	...	...	...	...	...	...	...	...	71
2nd "	...	...	...	...	...	...	...	...	48
3rd "	...	...	...	...	...	...	...	...	42
4th "	...	...	...	...	...	...	...	...	33
5th "	...	...	...	...	...	...	...	...	18
6th "	...	...	...	...	...	...	...	...	16
7th "	...	...	...	...	...	...	...	...	12
8 or more	...	...	...	...	...	...	...	...	36

In these three lists it will be noted that eye trouble is more frequent in the first, second and third child born than in the later members of the family.

Among the 395 cases in which ophthalmia neonatorum was reported the infant's mother admitted having a purulent vaginal discharge in 109 cases only.

In 53 instances previous children born to the same mother had inflammation of the eyes in some form after birth.

In 272 instances both eyes were involved; in 62 the left eye, and in 52 the right eye only.

#### CONTAGIOUS DISEASES OF ANIMALS.

The following report is made by Mr. Malcolm, F.R.C.V.S., Veterinary Superintendent :—

“ DEAR DR. ROBERTSON,

“ I have pleasure in submitting herewith a report on the occurrence of some of the chief scheduled contagious diseases in animals here during 1914.

#### GLANDERS AND FARCY.

“ There was no case or suspected case of glanders during the year. It will be remembered that in 1908, the year the present Glanders Order came in force, there were 100 cases in Birmingham. The effect of the Order was at once apparent, and in 1909 there were only three cases; in 1910, ten cases; in 1911, nine cases; in 1912, two cases; in 1913, two cases, and in 1914, as stated above, no case. Since the practical extermination of the disease in 1908 the few cases that have occurred here have been through the introduction of diseased animals from outside.

“ The rapid extermination of the disease in Birmingham under the 1908 Order has not been quite paralleled in the country generally, but at the same time the progress of eradication has been marked and practically continuous, as the following table shows :—

Year.	Cases.
1908	2,433
1909	1,753
1910	1,014
1911	504
1912	314
1913	447
1914	286

“Had London obtained results equal to those of the provinces, glanders would have now been extinct in Great Britain, and the recent decline in London returns warrants the expectation that the long hoped for goal is now not far off. At the same time it is necessary to bear in mind that if after the war due care is not observed the army cast horses may again tend to disseminate the disease throughout the country.

#### ANTHRAX.

“There have been several cases of sudden death suspicious of anthrax in Birmingham during the year. All these were examined, but only one case was found to be affected with anthrax (A. Hodgetts). A specimen of the case was sent to the Board of Agriculture's Laboratory, and the case was confirmed. As there is no record of any case of Anthrax previously at Mr. Hodgetts' farm, and as the animal was being fed on foreign cake and meals, the inference is that the disease was imported. Several consignments of meat sent to the abattoir from outside areas have been suspected of anthrax, but on examination no trace of anthrax was found.

#### FOOT AND MOUTH DISEASE.

“During the year two suspected cases of foot and mouth disease were reported, but on examination they were clearly not cases of this disease, and it was not deemed necessary to report them to the Board.

#### RABIES.

“This disease continues extinct in the country. Several more or less savage dogs have been submitted for inspection in Birmingham, but none were really suspicious of rabies.

#### SWINE FEVER.

During the year two hundred cases of sick or dead pigs have been submitted for inspection. In addition, ten cases have been dealt with by one of the whole time Veterinary Inspectors of the Board of Agriculture, who certified five of them to be swine fever cases, and the others not. Of the two hundred cases submitted to me 47 presented symptoms more or less suspicious of swine fever, and of these 30 were ultimately found affected, and were certified by the Board of Agriculture as cases. This disease has been repeatedly stamped out in Birmingham, but our freedom from it has only been for short periods, as it has soon been reintroduced from outside. In recent years the virulence of swine fever has varied greatly. In some outbreaks most of the pigs were affected with a very severe and fatal type of the disease. In others, only a few pigs were affected, and these with a very mild type of the disease. I understand the Board of Agriculture's Veterinary Staff have recently been undertaking a series of experimental inoculations with swine fever serum into healthy pigs and pigs very slightly affected with the mild form of the disease, in the hope of being able to prove that healthy pigs exposed to infection may be temporarily immunised to swine fever, and that pigs only slightly affected with swine fever may be cured. While the results of these inoculation experiments are not likely to warrant the present procedures being entirely superseded, it is hoped that they may warrant the extensive adoption of serum inoculation in the near future as a valuable aid to the present procedure for dealing with this very troublesome disease.

#### PARASITIC MANGE IN HORSES.

“During the year there were thirty-two outbreaks of mange affecting forty-six horses. Of these three horses were destroyed, the disease in them being so far advanced that the owners decided to have them slaughtered rather than treat them. The other forty-three horses were subsequently cured. From the commencement of the war to the end of the year the chief clauses of the Mange Order were suspended from operation.

#### SHEEP SCAB.

“Several cases of sheep scab occurred in one of the districts contiguous to Birmingham, and from this district a number of sheep were brought into the City, several of which presented symptoms suspicious of scab. After a careful inspection the suspected sheep were found free from the disease.

## TUBERCULOSIS ORDER, 1913.

From January 1st to the suspension of the Tuberculosis Order at the commencement of the war nine reported cases of suspected tuberculosis were dealt with. Four of these were subsequently killed by the owner's instructions, two of which on post mortem examination were found to be affected with tuberculosis, and the other two with Johne's disease. Three cases were dealt with by the Local Authority under the Tuberculosis Order, and all three on examination were shown to have generalized tuberculosis; the owners in these cases received compensation. One cow died from heart-failure, and one was affected with tuberculosis, but in too early a stage of the disease to be dealt with under the Order.

" JOHN MALCOLM,  
" *Veterinary Superintendent.*"

## DISINFECTION.

Practically the whole of the work of steam disinfection was done at Bacchus Road Disinfecting Station. A relatively small amount of it was done at the old Aston Manor disinfecting station, which is unsatisfactory, and has recently been abandoned.

The time has come for some further advance to be made in this work. At present a large amount of very dirty clothing is compulsorily removed from dwelling houses to be disinfected. The result of disinfecting dirty clothes is that the stains of milk, urine, etc., on them are fixed permanently, and cannot be washed out. It is extremely desirable, therefore, that the articles which can be washed should be washed, and probably the process of steeping and washing is in itself sufficient for a very large proportion of the articles now passed through the disinfecting station. It is obvious that two more or less badly equipped stations both situated on the northern side of the City are not convenient. There ought either to be a central station, or else one in the northern section of the town and one in the southern section. The journey from Stechford on the one hand or Rubery on the other to Bacchus Road is an extremely expensive one. Since pulmonary tuberculosis has been taken in hand by the Public Health and Housing Committee, the amount of disinfection to be done has increased considerably, and is not now subject to such violent fluctuations as used to occur formerly.

The method of disinfecting a room at present is to remove the bed, bedding, and clothing to Bacchus Road, then to spray the walls, floor, and woodwork with solution of bleaching powder, or a solution of formalin, and finally, if the paper happens to be very dirty, or if there are a large number of thicknesses of paper on the walls, to serve a notice requiring the owner to strip and limewash. As soon as the room disinfection is done the articles removed are taken back, so that for each house in which disinfection is carried out two journeys are required.

On December 31st the number of men employed in the work of house disinfection and bedding removal and disinfection was 14, and the number of horses employed on the same date was 9. The approximate mileage run during the year for this purpose was 37,000 miles.

The articles disinfected during 1914 comprised 9,183 beds, 6,081 mattresses, 5,803 counterpanes, 8,344 blankets, 7,150 sheets, 5,300 bolsters, 14,938 pillows, 21,693 garments, 1,227 boots, 3,489 carpets, and 14,360 sundries.

The houses disinfected included 6,471 after Scarlet Fever, 1,556 after Diphtheria, 78 after Enteric Fever, and 2,131 after Tuberculosis.

## CITY HOSPITALS.

The following statement shows the number of patients\* treated last year in the City hospitals:—

	Scarlet Fever.	Diphtheria.
Under treatment at beginning of year ...	796	114
Admitted during the year ... ..	4,924	1,181
Discharged during the year ... ..	5,112	1,002
Died during the year ... ..	133	166
Remaining at end of year ... ..	475	127

\*In a certain number of cases the diagnosis was revised in hospital.

A good many of the notified cases of Enteric Fever were treated in the General Hospitals of the City; also a few of the cases of Diphtheria.

The following reports have been made by the Medical Superintendents on the work of the hospitals during the year:—

## REPORT ON LITTLE BROMWICH HOSPITAL.

CITY HOSPITAL,  
LITTLE BROMWICH.

GENTLEMEN,

I have pleasure in submitting to you the report on the working of this hospital for the year ending December 31st, 1914.

## WORKS.

The only structural alteration carried out during the year was the building of the Medical Superintendent's house at the entrance to the hospital. This was not completed at the end of the year. The pavilions have been painted outside, and three wards have been redecorated inside. The inspection portion of the mortuary has been replastered, and curtained off to relieve the bareness of this building.

## STATISTICS OF SCARLET FEVER CASES.

Number remaining in hospital, December 31st, 1913 ... ..	505
Number admitted during the year 1914 ... ..	3,182
Total under treatment during the year ... ..	3,687
Discharged during the year 1914 ... ..	3,283
Died during the year ... ..	99
Remaining in hospital December 31st, 1914 ... ..	305
	3,687

The average duration of stay in the hospital was 54·8 days.

The number of deaths, 99, gives a case mortality rate of 2·6 per cent., as against 2·1 per cent. for the year 1913, based on the number of patients treated. Twenty-five of the deaths were of patients who did not have scarlet fever, and were due to 6 pneumonia, 1 pyorrhœa and diphtheria, 1 acute enteritis, 5 diphtheria, 1 whooping cough, 6 morbilli, 2 septic varicella, 1 empyema, 1 malnutrition, and 1 malnutrition and morbilli. If these cases be deducted, the mortality rate becomes 2 per cent. Further 9 of the cases were suffering from malignant scarlet fever, and died within 48 hours of admission to hospital. Eleven cases were complicated, on admission, by 1 chicken pox and broncho-pneumonia, 5 diphtheria, 3 broncho-pneumonia, and 2 meningitis. If all these cases be deducted, the mortality rate from scarlet fever becomes 1·4 per cent.

## COMPLICATIONS.

The complications arising in the cases treated during the year are shown in the following table:—

Rhinorrhœa ... ..	637	Nephritis ... ..	74
Adenitis ... ..	523	Pneumonia ... ..	29
Otorrhœa ... ..	325	Meningitis ... ..	7
Albuminuria ... ..	282	Conjunctivitis ... ..	91
Rheumatism ... ..	33	Jaundice ... ..	3
Abscess ... ..	62	Appendicitis ... ..	2
Bronchitis ... ..	40	Pleurisy ... ..	3
Empyema ... ..	2		



## COMPLICATIONS PRESENT ON ADMISSION.

Of those patients who suffered from complications while in hospital, as enumerated in the preceding table, a certain number of cases were suffering from one or more of these complications at the time of admission. The most frequent conditions so existing are shown in the following table :—

251 cases were	admitted	suffering	from	Rhinorrhœa.
124	”	”	”	Adenitis.
48	”	”	”	Conjunctivitis.
43	”	”	”	Otorrhœa.
85	”	”	”	Albuminuria.
6	”	”	”	Rheumatism.
4	”	”	”	Nephritis.
10	”	”	”	Pneumonia.
1 case was	”	”	”	Empyema.

In addition to the complications shown above, there arose during the year 73 cases of secondary scarlet fever, *i.e.*, cases in which a patient develops a second attack of scarlet fever or “relapse,” while convalescing from the primary attack.

## CORRECTED DIAGNOSIS.

One hundred and forty-one of the patients admitted certified to be suffering from scarlet fever were found not to be suffering from this disease, but from some other condition.

An analysis of these cases is given in the following table :—

Corrected Diagnosis.	No. of Cases.	Contracted Scarlet Fever in Hospital.	Died.
Tonsillitis ... ..	11	5	0
Morbilli ... ..	19	3	3
Otorrhœa ... ..	3	0	0
Rhinorrhœa .. ...	5	1	0
Chicken-pox ... ..	9	3	0
Septic Throat... ..	2	1	0
Broncho-pneumonia ... ..	2	0	1
Scabies ... ..	1	0	0
Marasmus and Otorrhœa ... ..	1	0	0
Bronchitis ... ..	3	0	0
Diphtheria ... ..	4	1	2
Flea-bite Rash ... ..	1	0	0
Pharyngitis ... ..	1	0	0
Whooping Cough ... ..	3	0	1
Quinsy ... ..	1	0	0
Scabies and Exfoliative Dermatitis ... ..	1	0	0
Erysipelas ... ..	1	0	0
Eczema ... ..	1	0	0
Rhinorrhœa and Whooping Cough ... ..	1	0	0
Urticarial Rash ... ..	1	1	0
Conjunctivitis and Bronchial Catarrh ... ..	1	0	0
Seborrhœa Capitis and Dermatitis of the Groins ... ..	1	0	0
Morbilli and Broncho-pneumonia ... ..	3	1	2
Bronchial Catarrh ... ..	1	0	0
Impetigo ... ..	1	0	0
Whooping Cough and Bronchitis ... ..	1	0	0
Albuminuria and Septic Abscess of Mouth ... ..	1	1	0
Intestinal Rash ... ..	1	0	0
Scalds ... ..	1	0	0
Impetigo and Seborrhœa ... ..	2	0	0
Rhinorrhœa, Albuminuria, Vaginal Disease and Ringworm ... ..	1	1	0
Abscess of Axilla ... ..	1	0	0
	86	18	9
No definite disease ... ..	55	16	0
	141	34	9

In addition to the above list of corrected diagnosis, many patients have been admitted suffering from scarlet fever in addition to some other infectious disease. The chief co-existing diseases were : Diphtheria, Chicken-pox, Morbilli, and Whooping Cough, and the respective numbers of each are as follows :—

Scarlet Fever and Diphtheria	...	...	...	...	14
„ „ Chicken Pox	...	...	...	...	45
„ „ Whooping Cough	...	...	...	...	15
„ „ Morbilli	...	...	...	...	32
Total	...	...	...	...	106

The 106 double-infected cases admitted gives a percentage of 3·3 based on the number of cases admitted during the year. In hospital, apart from the double-infected cases admitted, a certain number either contracted or developed (after contracting the disease outside) other infectious diseases, the percentage of these being 4·3 per cent., so that the total percentage of the cases cross-infected with Diphtheria, Chicken-pox, Whooping Cough and Morbilli was 7·6 per cent. The percentage of cases suffering from Ringworm and Scabies was 1·1 per cent., which brings the total cross-infected cases in hospital during the year to 8·7 per cent. The percentage of cross-infected cases in 1913 was 7·1 per cent.

#### UNCLEAN HEADS.

The number of patients admitted with unclean heads was a little better than in previous years, but the percentage of these is still very high, namely, 53 per cent. 1,957 patients were admitted with dirty heads, 1,143 being females and 814 males. In 1912 the percentage was 62 per cent., and in 1913 it was 66 per cent.

#### BACTERIOLOGICAL EXAMINATIONS.

720 swabs of dirty throats have been taken during the year, and 63 out of these were found to be positive.

#### HEALTH OF THE STAFF.

The health of the Staff has not been at all good during the year. The number of Staff who were taken off duty on account of illness and the duration of illness are shown in the following table :—

2 Doctors with Scarlet Fever	...	...	...	...	58 days off duty.
26 Nurses with Scarlet Fever	...	...	...	...	798 „
28 Nurses with Tonsillitis	...	...	...	...	196 „
2 Nurses with Diphtheria	...	...	...	...	88 „
10 Nurses with Influenza	...	...	...	...	63 „
9 Nurses with Rheumatism	...	...	...	...	51 „
2 Nurses with Phthisis	...	...	...	...	247 „
4 Nurses with Erysipelas	...	...	...	...	72 „
2 Nurses with Morbilli	...	...	...	...	41 „
17 Nurses with minor ailments	...	...	...	...	98 „
					1,712
17 Maids with Scarlet Fever	...	...	...	...	555 „
1 Maid with Diphtheria	...	...	...	...	10 „
2 Maids with Rheumatism	...	...	...	...	21 „
11 Maids with Tonsillitis	...	...	...	...	77 „
1 Maid with Broken Arm	...	...	...	...	72 „
18 Maids with minor ailments	...	...	...	...	151 „
					886 „

Dr. Spring being called up for military duty at the beginning of August, Dr. Soutter acted as Medical Superintendent until he also joined His Majesty's Forces in November, and from that time I have carried on this duty. These records have all been compiled from the system of records of cases kept at the hospital by Dr. Spring.

I am, Gentlemen,

Your obedient servant,

CHARLES MURRAY, M.A., M.D., D.P.H.,

*Acting Medical Superintendent.*

## REPORT ON LODGE ROAD HOSPITAL.

CITY HOSPITAL,  
LODGE ROAD.

GENTLEMEN,

I beg to present to you my report on the working of this hospital for the year ended 31st December, 1914.

The total number of patients under treatment during the year was 2,192, being 367 more than in the previous year.

Of the total, 898 were notified as Scarlet Fever and 1,294 as Diphtheria.

The number of deaths amongst the Scarlet Fever cases was 12, giving a death-rate of 1.3 per cent.

The number of deaths amongst the diphtheria cases was 168, giving a death-rate of 12.9 per cent.

## DIPHTHERIA.

Admissions	...	...	...	...	...	...	1,186
Deaths	...	...	...	...	...	...	168
Percentage mortality on number treated	...	...	...	...	...	...	12.9

The number of laryngeal cases requiring tracheotomy or steam tent was 89, and the number of deaths was 42, giving a percentage mortality of 47.1.

Tracheotomy was performed in 45 cases.

The death-rate is fairly high owing to the fact that the laryngeal trouble was in a large proportion of the cases associated with faucial and palatal membrane. The combination is a most serious one, and, moreover, often points to an advanced stage of the disease reached before admission into hospital.

The number of swabs cultured and examined microscopically was 3,614.

The number of diphtheria admissions during 1914 was exceptionally great, being about three times that of the previous year.

The type, as a rule, was a very severe one. In the classification below it will be noticed that 45 cases were hæmorrhagic, a type almost invariably fatal, and fortunately somewhat rare.

One hundred and twenty-five cases were admitted in which the palate was involved.

## CLASSIFICATION OF DIPHTHERIA CASES.

1. Hæmorrhagic	...	...	...	...	...	...	45
2. Laryngeal	...	...	...	...	...	...	45
3. Faucial and Laryngeal	...	...	...	...	...	...	42
4. Various degrees of Faucial	...	...	...	...	...	...	580
5. Faucial and Palatal	...	...	...	...	...	...	125
6. Nasal	...	...	...	...	...	...	5

## IMPORTANT COMPLICATIONS.

## PARALYSIS. A. Primary or early.

(1) Cardiac	...	...	...	...	...	49
(2) Palatal	...	...	...	...	...	3

## B. Secondary or late.

(1) Palatal	...	...	...	...	...	109
(2) Cardiac	...	...	...	...	...	88
(3) Oculo-motor	...	...	...	...	...	51
(4) Pharyngeal	...	...	...	...	...	47
(5) Facial	...	...	...	...	...	15
(6) Lower Limbs	...	...	...	...	...	4
(7) Diaphragmatic	...	...	...	...	...	5
(8) Accommodation	...	...	...	...	...	8
(9) Upper Limbs	...	...	...	...	...	1
(10) Ptosis	...	...	...	...	...	4
Antitoxin Rash	...	...	...	...	...	159
Joint Pains	...	...	...	...	...	23
Hæmaturia	...	...	...	...	...	6

The amount of antidiphtheria serum administered in the hospital during 1914 was 7,479,000 units, or an average of 7,275 units per patient receiving this treatment.

The number of units given before admission was 307,000 amongst 76 cases, or an average of 4,039 units per case.

Of the 1,186 cases admitted, only 76 received antitoxin before admission, that is, 6.4 per cent.

The number of patients who died within 24 hours of admission was 23, and within 48 hours was 24.

The average life in the hospital of those that died was 8.4 days.

The table below shows the relation of mortality to the number of days ill before admission (of true cases of diphtheria), or, in other words, before antitoxin was administered.

Number of days ill on day of Admission.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	15-35	TOTAL.
Deaths ...	1	21	31	28	32	21	5	5	1	1	1	1	2	0	1	2	153
Recoveries	22	107	148	141	115	77	37	26	15	7	3	3	5	4	2	4	716
Mortality Percentage	4.3	16.4	17.4	16.5	21.7	21.4	11.9	16.3	6.3	12.5	25%	25%	28.5	0	33 $\frac{1}{3}$ %	33 $\frac{1}{3}$ %	17.4

A revision of diagnosis was made in 317 cases, or 26.7 of the patients admitted as diphtheria.

#### REVISION OF DIAGNOSIS.

Tonsilitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	210
Scarlet Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	45
Broncho-Pneumonia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Laryngitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Bronchitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Whooping Cough ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Measles ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
Impetigo ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Chicken-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Otitis Media	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Quinsy ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
Thrush ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
No Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	30
Total ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	317

The average stay in hospital of diphtheria patients that recovered was 37.8 days.

#### CROSS INFECTION.

Cases of Diphtheria contracted	Scarlet Fever	...	9
"	Measles	...	4
"	Chicken-pox...	...	2

#### AGE AND SEX MORTALITY.

Table showing the mortality according to age and sex distribution, based on the number admitted:—

AGES.	MALES.			FEMALES.			TOTAL.		
	Admitted.	Died.	Per-centage.	Admitted.	Died.	Per-centage.	Admitted.	Died.	Per-centage.
Under 1 year ...	6	2	33 $\frac{1}{3}$ %	9	3	33 $\frac{1}{3}$ %	15	5	33 $\frac{1}{3}$ %
1—2 ...	28	8	28.6	16	6	37.5	44	14	31.8
2—3 ...	38	9	23.9	33	8	24.2	71	17	24.0
3—4 ...	51	9	17.6	45	11	24.4	96	20	20.8
4—5 ...	45	11	24.4	35	7	20.0	80	18	22.5
5—10 ...	170	27	15.9	263	52	19.7	433	79	18.2
10—15 ...	85	5	5.9	127	6	4.7	212	11	5.2
15—20 ...	31	—	—	57	1	1.8	88	1	1.1
20—25 ...	19	—	—	34	—	—	53	—	—
25—35 ...	20	—	—	43	1	2.3	63	1	1.6
35—45 ...	6	1	16.6	19	1	5.3	25	2	8.0
45—60 ...	3	—	—	3	—	—	6	—	—
Total ...	502	72	12.35	684	96	14.0	1186	168	14.16

## SCARLET FEVER.

The following table shows the mortality according to age and sex distribution, based on the number admitted:—

AGES.	MALES.			FEMALES.			TOTAL.		
	Admitted.	Died.	Per-centage.	Admitted.	Died.	Per-centage.	Admitted.	Died.	Per-centage.
Under 1 year ...	4	—	—	12	—	—	16	—	—
1—2 years ...	15	3	20.0	12	—	—	27	3	11.1
2—3 „ ...	25	2	8.0	20	—	—	45	2	4.4
3—4 „ ...	30	2	6.6	28	2	1.14	58	4	6.9
4—5 „ ...	48	—	—	29	—	—	77	—	—
5—10 „ ...	143	2	1.4	152	1	0.65	295	3	1.0
10—15 „ ...	85	—	—	67	—	—	152	—	—
15—20 „ ...	28	—	—	27	—	—	55	—	—
20—25 „ ...	6	—	—	14	—	—	20	—	—
25—35 „ ...	4	—	—	14	—	—	18	—	—
35—45 „ ...	3	—	—	5	—	—	8	—	—
45—55 „ ...	—	—	—	1	—	—	1	—	—
Total ...	391	9	2.3	381	3	0.79	772	12	1.5

Number of cases admitted during 1914 was 772.

Number of cases under treatment, 898. Deaths 12.

Percentage mortality, 1.3.

The average stay in hospital of recoveries was 43.3 days; of those that died 21.6 days.

The diagnosis was revised in 70 cases, as follows:—

No signs of disease ...	48
Tonsillitis ...	11
Pneumonia ...	1
Congenital Syphilis ...	1
Chicken-pox ...	1
Erysipelas ...	1
Meningitis ...	1
Measles ...	3
Diphtheria ...	2
Rheumatism ...	1
Total ...	70

## CROSS INFECTION.

Cases of Scarlet Fever contracted Measles ... 2

Cases of Scarlet Fever contracted Whooping Cough... 2

There were 70 negative cases admitted, not one of which contracted Scarlet Fever.

## COMPLICATIONS.

	Present on Admission.	Occurring after Admission.
Rhinitis ...	49	164
Albuminuria ...	3	289
Nephritis ...	2	22
Otitis ...	6	86
Scarlatinal Rheumatism ...	—	15
Conjunctivitis ...	1	10
Abscess of Nec. ...	—	12
Mastoid Abscess ...	—	2
Meningitis ...	—	2

Table of comparison of negative cases contracting Scarlet Fever in 1914 and the two preceding years:—

1912—22 out of 138 negative cases ...	16.5%
1913— 3 out of 88 negative cases ...	3.4%
1914— 0 out of 70 negative cases ...	0 %

A further diminution on the occurrence of Rhinitis after admission will be noticed :—

1912—442 out of 1,163 admissions	...	...	...	...	...	...	38.0%
1913—298 out of 1,182 admissions	...	...	...	...	...	...	25.2%
1914—164 out of 772 admissions	...	...	...	...	...	...	21.2%

Otitis occurring after admission is about the same as in the previous year:—

1912—146 out of 1,163 admissions	...	...	...	...	...	...	12.5%
1913—130 out of 1,182 admissions	...	...	...	...	...	...	10.9%
1914—86 out of 1,182 admissions	...	...	...	...	...	...	11.1%

#### HEALTH OF THE STAFF.

There were 67 nurses and 34 maids sick during 1914, off duty 688 days and 341 days respectively.

#### SUMMARY OF SICK STAFF.

DISEASE.	NURSES.		MAIDS.	
	No.	Days off.	No.	Days off.
Diphtheria	6	230	3	108
Scarlet Fever	3	89	—	—
Tonsillitis	21	104	13	88
Quinsy	2	10	—	—
Laryngitis	1	12	1	18
Bronchitis	—	—	3	36
Colds	8	32	4	17
Pleurisy	—	—	2	42
Anæmia	3	64	1	7
Influenza	2	11	1	3
Neurasthenia	2	36	—	—
Biliousness	2	5	1	5
Indigestion	—	—	1	3
Diarrhœa	1	2	—	—
Rheumatism	1	4	3	11
Sub-Acute Peritonitis	1	20	—	—
Sub-Acute Appendicitis	1	8	—	—
Sprained Ankle	1	4	—	—
Wound in Knee	1	4	—	—
Swollen Face	1	3	—	—
Boils on Neck	1	4	—	—
Abscesses...	3	14	—	—
Lymphatic Oedema	1	8	—	—
Septic Toe	2	10	—	—
Inflamed Knee	1	3	—	—
Inflamed Eyelid	1	5	—	—
Bicycle Accident	1	6	—	—
Enlarged Glands in Neck	—	—	1	3
Total	67	688	34	341

Nurses and Maids off duty	...	...	...	...	...	...	101
Total number of days off duty for both	...	...	...	...	...	...	1,029

The hours of duty for the nursing staff were considerably reduced in 1914. Previously the day nurses worked 69 hours per week, the night nurses 82. Now, however, all do 63 hours of duty per week.

I am, Gentlemen,

Your obedient servant,

HENRY WHITEHEAD, M.D., D.P.H.,  
*Medical Superintendent.*

#### WEST HEATH HOSPITAL REPORT.

CITY HOSPITAL,  
WEST HEATH.

GENTLEMEN,

I have much pleasure in submitting the following report of the work done at the above hospital during 1914 :—

## SCARLET FEVER.

Remaining December 31st, 1913 ... .. .	78
Admitted during 1914 ... .. .	281
Discharged during 1914 ... .. .	325
Died ... .. .	5
Remaining December 31st, 1914 ... .. .	29

Of the five deaths, three patients suffered from complications—(1) Whooping Cough, (2) Broncho-pneumonia, (3) Diphtheria. Calculated on those cases which completed treatment during 1914, the death-rate was 1·5 per cent.

## PHTHISIS.

Remaining December 31st, 1913 ... .. .	27
Admitted during 1914 ... .. .	234
Discharged during 1914 ... .. .	196
Died ... .. .	28
Remaining December 31st, 1914 ... .. .	37

Those cases who died were all advanced in type (third stage).

There were 17 women and 36 men discharged as improved, while 37 women and 10 men refused to remain in the institution for the stipulated time of three months.

The death-rate of those whose treatment was completed was 12·5 per cent.

I am, Gentlemen,

Your obedient servant,

W. H. EDMUNDS, L.M.S.S.A.,

*Acting Medical Superintendent.*

## WITTON HOSPITAL REPORT.

CITY HOSPITAL,

WITTON,

BIRMINGHAM.

GENTLEMEN,

I beg to submit a report and statistical tables showing the work done in the hospital during the year ending December 31st, 1914.

TABLE I.

Showing the age and sex incidence amongst the 724 cases of Scarlet Fever admitted during the year:—

AGES.	Cases.		Deaths.		Totals as to Age.	
	Males.	Females.	Males.	Females.	Cases.	Deaths.
Under 1 year ... .. .	2	3	—	—	5	—
1 year and under 2 years ... .. .	12	6	2	—	18	2
2 years     "     3     "     ... .. .	24	11	1	1	35	2
3     "     "     4     "     ... .. .	32	29	1	4	61	5
4     "     "     5     "     ... .. .	22	29	—	3	51	3
Totals under 5 years ... .. .	92	78	4	8	170	12
5 years and under 10 years ... .. .	156	160	2	2	316	4
10     "     "     15     "     ... .. .	72	78	—	1	150	1
15     "     "     20     "     ... .. .	16	24	1	—	40	1
20     "     "     25     "     ... .. .	5	17	—	—	22	—
25     "     "     30     "     ... .. .	4	8	—	—	12	—
30     "     "     35     "     ... .. .	2	4	—	—	6	—
35 years and over ... .. .	1	7	—	—	8	—
Totals 5 years or over ... .. .	256	298	3	3	554	6

## STATISTICS.

Number of patients remaining in hospital, December 31st, 1913... .. .	108
Number of patients admitted during the year ... .. .	724
Number under treatment during the year ... .. .	832
Number of patients discharged during the year ... .. .	733
Number of patients died during the year ... .. .	18
Number of patients in hospital, December 31st, 1914 ... .. .	81
	<hr/>
	832
	<hr/>

The average stay in hospital of the patients who recovered was 49.7 days, and the average stay in hospital of those that died was 13 days.

The number of deaths, 18, gives a mortality rate of 2.1 per cent. based on the number of cases treated during the year.

Nine cases were sent into hospital as suffering from Scarlet Fever, but on admission were rediagnosed as follows:—

Tonsillitis ... ..	4
No sign of any disease ... ..	5

Three of the above cases developed Scarlet Fever in hospital.

#### COMPLICATIONS.

The complications arising in the cases treated are shown in the following tables.—

On admission—

Rhinitis ... ..	34
Albuminuria ... ..	16
Otitis ... ..	15
Bronchitis ... ..	2

In addition to the above the following complications arose in hospital:—

Rhinitis ... ..	128
Adenitis ... ..	105
Albuminuria ... ..	113
Rheumatism ... ..	7
Bronchitis ... ..	3
Secondary Throat ... ..	13
Otitis ... ..	61
Abscess ... ..	15
Nephritis ... ..	13
Diphtheria ... ..	15
Pneumonia ... ..	6

TABLE II.

Showing age and sex incidence of complications amongst the cases admitted during the year:—

	Under 1 year	1 year and under 2 years	2 years and under 3 years	3 years and under 4 years	4 years and under 5 years	5 years and under 10 years	10 years and under 15 years	15 years and under 20 years	20 years and under 25 years	25 years and under 30 years	30 years and over	Totals as to Complications
Rhinitis ... ..	1	9	23	34	22	59	12	1	1	—	—	162
Adenitis ... ..	—	4	6	18	10	42	19	3	2	—	1	105
Abscess ... ..	—	2	—	3	2	6	1	—	—	—	1	15
Otitis ... ..	—	2	9	13	15	23	12	1	—	1	—	76
Secondary Throat	—	—	—	1	—	7	3	1	—	—	1	13
Albuminuria ... ..	—	3	7	12	12	52	30	4	5	4	—	129
Nephritis... ..	—	—	—	1	6	6	—	—	—	—	—	13
	1	20	45	82	67	195	77	10	8	5	3	513

Twenty-two patients developed a second attack of scarlet fever while convalescing from the primary attack. The second attack was of a very mild character in each case.

A large proportion of the children who were admitted were suffering from bad teeth.

#### CROSS INFECTION.

No cross infected cases or cases from houses showing a history of cross infection were admitted to the hospital at Witton, if it could be avoided, owing to our having very little isolation accommodation, but a few cross infected cases were admitted suffering from or incubating other diseases than scarlet fever, and the numbers of these were:—

Measles ... ..	6
Scabies ... ..	3
Tinea ... ..	4
Whooping Cough ... ..	10

No structural alterations took place at the hospital during the year, but from time to time small alterations and repairs took place which helped to considerably improve the conditions of work in the institution.



Dr. Torrance was called up for military duty at the beginning of August, and I then took up the duties of Medical Superintendent.

The health of the staff was fairly good during the year, as will be seen by the following table of staff off duty and the duration of the illness :—

1 Doctor	off duty owing to	Tonsillitis ... ..	6 days.
3 Nurses	„	Scarlet Fever ... ..	94 „
2 Nurses	„	Diphtheria ... ..	29 „
4 Nurses	„	Influenza ... ..	19 „
3 Nurses	„	Tonsillitis ... ..	11 „
3 Nurses	„	Minor ailments ... ..	26 „
1 Maid	„	Scarlet Fever ... ..	44 „
2 Maids	„	Tonsillitis ... ..	10 „
2 Maids	„	Minor ailments ... ..	19 „
			258 „

I am, Gentlemen,

Your obedient servant,

JAMES O'SHEA, L.R.C.P., L.R.C.S.

*Acting Medical Superintendent.*

#### STAFF OF THE PUBLIC HEALTH AND HOUSING DEPARTMENT.

The Staff of the Public Health and Housing Department, exclusive of those engaged at the City Hospitals, Sanatoria, and Tuberculosis Dispensary, is shown in the statement below :—

1	Medical Officer of Health
1	Senior Assistant
4	District Medical Officers
1	Lady Medical Officer
7	Infant Visitors
1	Chief Sanitary Inspector
8	District Inspectors
28	General Sanitary Inspectors
1	Chief Housing Inspector
1	Deputy Chief Housing Inspector
1	Draughtsman
3	Housing Inspectors
1	Inspector of Common Lodging Houses
1	Inspector of Canal Boats and Houses let in Lodgings
2	Inspectors of Milkshops
3	Inspectors under Food and Drugs Acts
4	Inspectors under Shops Act
4	Inspectors of Workshops
4	Smoke Inspectors
10	Tuberculosis Inspectors
1	Inspector of Midwives
1	Superintendent of Health Visitors
1	Assistant Superintendent
19	Health Visitors
1	Laboratory Assistant
1	Children's Cleansing Station Attendant
1	Chief Accountant
1	Chief Clerk and Statistician
25	Clerks
14	Disinfectors
19	Court-yard Inspectors and Cleansers
2	Drivers

## GENERAL SANITARY WORK.

The work of the general Sanitary Inspectors, including the District Inspectors, is indicated in the following figures :—

No. of visits and revisits paid :—

Infectious Diseases	...	...	...	...	20,509
Prevalence of Sore Throats	...	...	...	...	9,490
Nuisances or Complaints	...	...	...	...	24,063
Work ordered	...	...	...	...	28,760
Work in progress	...	...	...	...	21,867
Inspection of Dirty Courts	...	...	...	...	5,249
House to House Inspection	...	...	...	...	13,500
Inspection of Void Houses	...	...	...	...	2,811
Smoke or Water Tests	...	...	...	...	1,830
Offensive Trades	...	...	...	...	211
Ice Cream	...	...	...	...	863
Owners or Agents	...	...	...	...	4,020
Other Purposes	...	...	...	...	4,917

Nuisances, etc., reported :—

Houses to be disinfected after Smallpox	...	...	—
"    "    "    Scarlet Fever	...	...	6,471
"    "    "    Diphtheria	...	...	1,556
"    "    "    Typhoid Fever	...	...	78
Repairs to Houses	...	...	40,158
Houses to be cleansed	...	...	3,786
Houses to be provided with better ventilation	...	...	1,082
Houses to be provided with separate water supply	...	...	139
Cases of overcrowding to be remedied	...	...	169
Houses to be provided with Damp Courses	...	...	3,196
Water to be removed from Cellars	...	...	424
Spouting to be repaired or disconnected	...	...	5,999
Rain Water Cisterns to be disconnected or abolished	...	...	945
Ashpit Privies to be converted to Water Closets	...	...	121
Pan Privies to be converted to Water Closets	...	...	503
Privies and Closets to be limewashed	...	...	3,547
Water Closets to be repaired or reconstructed	...	...	7,419
Additional Water Closets to be provided	...	...	312
*Ashplaces to be repaired or limewashed	...	...	5,105
Ash Tubs to be provided	...	...	6,102
Soilpipes to be repaired or removed	...	...	132
Urinals to be put in order or closed	...	...	227
Drains to be relaid or repaired	...	...	2,738
Drains to be opened and cleansed	...	...	6,747
Gully Traps to be provided	...	...	2,280
Interception Traps to be provided on main drains	...	...	147
Premises to be supplied with additional drains	...	...	1,527
Drains in cellars to be disconnected or abolished	...	...	303
Sink Bend Pipes to be repaired or affixed	...	...	3,151
Sanitary Sinks to be provided	...	...	2,187
Yards to be paved	...	...	604
Yards to be repaired	...	...	5,406
Courts or Yards to be cleansed by Tenants	...	...	387
Wash Houses to be repaired or limewashed	...	...	4,370
Keeping of fowls to be discontinued	...	...	325
Nuisances from swine and swine styes abated	...	...	46
Accumulations of rubbish, manure, etc., to be removed	...	...	779
Manure receptacles to be provided or repaired	...	...	170
Dangerous premises to be reported to City Surveyor's Department	...	...	470
Defective Fittings to be reported to Water Dept.	...	...	1,366
Other Work to be done	...	...	20

Owing to the dearth of small houses, efforts were made to get as many defects as possible remedied under the Public Health Acts rather than under the Housing Acts. In consequence the general repairs ordered to houses rose from 27,487 in 1913 to 40,158 in 1914. The houses to be cleansed rose from 2,821 to 3,786, and those requiring a damp course from 1,553 to 3,196.

In many of the other figures similar increases took place.

Considerable difficulty is experienced in certain cases in getting landlords to carry out the necessary repairs. During the year 16,126 preliminary notices were issued relating to 98,755 sanitary defects of various kinds. In 1,056 instances statutory notices had to be sent in addition to a preliminary notice, and in 44 a summons had subsequently to be taken out.

#### IMPROVEMENT OF COURT-YARDS.

Further efforts were made during 1914 to improve the condition of the court-yards in the City, not only structurally, but also in the way in which they are maintained. The table on the previous page shows that a large amount of work was done in the way of improved paving, better provision for ashes and repairs to closets and washhouses. In addition to this an increased staff of Court-yard Inspectors was engaged early in the summer, whose business it is to go round to the court yards in the more central areas and insist on the tenants doing their part in keeping them clean and wholesome.

During the year the Court-yard Inspectors made 47,728 visits of inspection, these being paid to about 7,000 court-yards.

In these yards they made 146,764 inspections of water closets. About half of these were locked and half unlocked. In 3,054 instances the closet was obstructed, and in 13,558 it was dirty. They also made 80,058 inspections of ashbins, and in 5,245 found them to be in a bad condition. In the course of their work the Court-yard Inspectors reported 611 instances of defective spouting, 843 of obstructed drains, 1,793 of defective waterclosets, 1,305 of want of ashbins, and 932 of other defects.

A considerable number of court-yards are periodically cleansed at short intervals by the staff of Court Cleaners, and this work is paid for by the owners of the property. A certain number of others are cleansed from time to time without any charge being made. In all, the staff effected 18,658 cleansings during the year. These cleansings involved the swilling of 27,422 ashplaces, the cleansing of 137,333 drain traps, and the opening with a plunger of 3,771 drains.

#### HOUSING AND TOWN PLANNING.

The Special Committee appointed by the City Council on May 6th, 1913, to

- (1) Investigate the present housing conditions of the poor in Birmingham,
- (2) Review the past policy of the Council in administering the Housing Acts,
- (3) Obtain information as to conditions existing in other places, and
- (4) Report the facts and their recommendations as to any future action to be taken by the Council,

made an interim report on October 20th, 1914.

The conclusions and recommendations in the above-mentioned report are so important that they are inserted here:—

“Birmingham contains a vast number of small houses in courts and terraces, mostly of the back-to-back type. They are in many ways undesirable dwelling houses owing to the small size of the rooms, the want of through ventilation, and in many cases to the fact that they get no sunlight. But much more important than these defects is the inadequacy and publicity of their common conveniences, which form the ‘true scandal to civilisation,’ and make it difficult for the inhabitants to lead decent and healthy lives.

“On the other hand, these houses are let at rents varying from 2/6 to 5/6 per week, and it is impossible to find new houses in the suburbs to-day to let at less than 6/9. If, then, the back-to-back houses are demolished, there is no hope of replacing them at corresponding rents unless the municipality is prepared to build and face the loss. To do this at present would involve an immense capital expenditure, and would permanently settle a large population on sites and under conditions far from satisfactory.

“Until recent years a constant migration of the working-classes from the centre to the suburbs was taking place. This migration has almost ceased, not because the workman has changed his desires, but because the erection of new houses has so diminished that it has become impossible to obtain accommodation in the outskirts. The result is that voids in the centre of the City are almost non-existent, and tenants ejected from a house on which a closing order has been made have nowhere to go to. The Committee have thus been forced to the conclusion that a resumption of building in the suburbs is a necessary preliminary to more drastic measures in the centre. After consideration of various alternatives, the Committee consider the best way of aiding the resumption is for the Council to purchase estates in the undeveloped areas, and, after developing them by constructing roads, laying sewers and mains, and providing easy access, to let off the building plots to public utility societies and builders, imposing suitable restrictions on ground rents.

“Assuming this policy to be successful, migration from the centre will once more take place, and ultimately reconstruction of the old city on improved lines will become possible. For this purpose it is urged that a town plan should be at once prepared, to which all alterations to streets or buildings should be made to conform as far as possible, and that the city should be divided into areas to be reconstructed after different periods of time. As to how or by whom this reconstruction should take place, the Committee offer no opinion at present, considering that it would be premature to do so without knowledge of the then existing conditions.

“Pending the reconstruction, the Committee advocate a continuance of the policy of calling upon owners to put their property into more habitable condition, resorting, however, more to procedure under the Public Health Act and the Birmingham Consolidation Act than that under Section 17, so as to avoid demolition as far as possible. They urge, moreover, that attention should specially be directed to the improvement of the common conveniences, even at some extra cost to the rates.

“In order more efficiently to carry out the new policy, they suggest the separation of the Public Health and Housing Committee into two committees, the one dealing with the provision of new houses and closing and demolition orders under Section 17, and the other with the work now carried out by the Health Sub-Committee. The new Housing Committee would require the services of a new official, but the Medical Officer of Health would remain the principal official of both Committees.

“If the above conclusions and recommendations are adopted by the Council, the Committee will proceed to complete its investigations into certain of the matters referred to in this report. These would include :—

“The best method of inducing public utility societies or builders to take up the developed Corporation frontages, and the probability of efforts in this direction being successful. Enquiries would be made as to the experience of other towns, and possibly some further visits made.

“Consideration of the powers required for the purchase and development of estates on town planning lines.

“The probable effect on the City’s finances of an increase in the compound limit and in the allowances from assessment for repairs.”

It was resolved by the City Council, “That the conclusions and recommendations of the Special Housing Inquiry Committee in regard to the procedure to be followed in dealing with the present housing conditions and the provision of new houses be generally approved, and that the Committee be instructed to continue its investigations on the lines indicated in the Report.”

On the same page of the Council Minutes as the above Resolution appears there is another which is also of great importance to the future housing in Birmingham. It is as follows :—Minute No. 22,867. Resolved : That the Town Planning Committee be instructed to commence at once the preparation of a town plan to include the whole built-up area of the City, with a view to its ultimate reconstruction.

The above resolutions and report put definitely into form what has been kept in view for ten or twelve years as the best way of really substantially improving the housing conditions of the people of all classes in Birmingham.

When a Housing Committee was appointed for the first time in Birmingham on June 18th, 1901, the question of the policy to adopt was considered very carefully, and was defined in their report to the Council on June 3rd, 1902. The policy then outlined was :—

- (a) To remove certain checks to the erection of houses by private enterprise, and, indeed, to use every opportunity of encouraging private enterprise, and
- (b) To effect improvements in the sanitary condition of the slums under Part II. of the Housing Act.

For several years, and, indeed, up to the present time, the policy of improvements in small house property has occupied the chief part of the time of those dealing with Housing in Birmingham. The amount of work done under this part of the policy is set out for each year in a tabular statement on page 95 of this Report.

It was very early recognised by those engaged in the work of getting the repair of small house property carried out, that this alone was inadequate as a method of producing housing conditions sufficiently good for the meanest of dwellers, and that something more substantial and lasting was needed.

While looking about for a method of securing the erection of houses under really wholesome conditions, Mr. Horsfall's book on "The Improvement of the Dwellings and Surroundings of the People" appeared in 1904. This book stimulated those engaged in housing work to look further afield, and as a result it appeared then to be absolutely necessary to control the development of the unbuilt-on areas, so as to prevent unwholesome conditions in housing, and at the same time to arrange for the spreading of the population of the City over a wide area by means of convenient roads, trams, railways, etc.

It was also at this time recognised that the only way to arrange for the reconstruction of the central areas in the best interests of the whole community was to provide a town plan of the old developed area of the City, and get powers to do this by slow stages as opportunity arose.

The first step in this direction of controlling the building was to extend the City boundary so as to include the large areas to which Birmingham people were going in the absence of room for expansion within the City boundary.

In 1905 instructions were given for a report to be made on the possibility of extending the City in such a way that the extension would be likely to last for the overflow of Birmingham for fifty years to come.

In 1911, after much negotiation and considerable litigation, the area selected in 1905 was added by Parliament to the City, thus giving to Birmingham a wide fringe of country but sparsely built on or entirely rural.

To several members of the Birmingham City Council the present town planning powers are mainly due. It is true that town planning is very old. The Greeks and the Romans planned their towns as a whole. A large part of Edinburgh was excellently town planned in the eighteenth century, and we have many smaller single estates where good general plans have been worked out for town districts, *e.g.*, Edgbaston.

The conception that certain of the old principles of town planning should be made use of as a subsidiary means of producing healthy houses for the people was due to these members of the old Housing Committee, who foresaw a method of arriving at healthier conditions for the great mass of the people.

At this time, town planning as a compulsory measure was not known, and it was resolved by the Committee that two schemes of such magnitude as (a) an enormous City extension and (b) a local Town Planning Act could not be undertaken without endangering one or the other, or both. It was then decided to suggest that an extension of the City should be undertaken, and that the subject of town planning should be advocated as a general Act rather than a local one. Fortunately, the country was ripe for town planning. It had but to be mentioned to be taken up by enthusiasts everywhere, with a result that the somewhat limited powers which are found in the Town Planning Act became law in 1909.

Birmingham in 1905 wanted to be able (1) to control and facilitate development in the suburbs, and (2) to plan the central area. She now, in 1914, has got the suburbs and a fair measure of town planning for the suburbs. She has yet to get powers to deal with the central area.

At the end of 1914 a considerable part of the undeveloped area of the City had been town planned, or was in process of being planned. In the map on the opposite page is shown :—

- (1) The developed parts of the City,
- (2) The areas already completely planned,
- (3) The areas which are in process of being planned,
- (4) Areas allocated for factories, etc., in the areas which have been planned.

The total extent of the planned or partly planned area is 15,339 acres, 6,939 being completely planned, and 8,400 partly planned.

In those areas which have been completely planned factory accommodation has either been fixed or suggested over 1,786 acres.

In addition to defining the line of main roads and the character of these, so as to facilitate access, and to provide for their being tree-planted, the main housing features are as follows :—

- (1) Limitation of the number of houses per acre.
- (2) The supervision of the class of buildings to be erected on any one area, and the amount of air space surrounding the same.
- (3) The provision of parks, playing fields, etc., in these new areas.
- (4) The prevention of nuisances from noxious trades.
- (5) The keeping of gardens free from nuisances or annoyances to neighbours or persons using the highways.

#### HOUSING ACCOMMODATION IN 1914.

For a considerable number of years there has been in the City a large number of void houses, the greatest number being the smallest type of house in the central wards. (See table on page 93 showing figures taken from rate-books. The census of the Registrar-General showed very similar results.)

During 1914, however, an acute house famine occurred with considerable rapidity, due to several causes :—

- (1) There was a trade boom bringing in a larger number of people than usual
- (2) There were established several considerable works. In one instance work men and their families were transferred from other towns.
- (3) Coincident with these increases in population there was diminished building of cottage property. (See figures on page 100.)
- (4) Old house property depreciated in value owing to fear of prospective legislation to such an extent that owners preferred to pull it down rather than repair it.





On January 8th, 1915, the following report was presented to the Public Health and Housing Committee on the available accommodation :—

#### “VOID HOUSE ACCOMMODATION IN BIRMINGHAM.

“Minute No. 2636.—This minute instructed me to arrange with the City Treasurer for a count of the unoccupied houses in the City, at a cost of about £20. The City Treasurer had the count made between November 8th and 21st, the cost of which was £35 15s. 5d.

# TOWN PLANNING IN BIRMINGHAM.



-  AREA ALREADY DEVELOPED.
-  UNDEVELOPED AREA NOT YET PLANNED.
-  AREA IN COURSE OF BEING TOWN PLANNED.
-  AREA TOWN PLANNED. THE HATCHED PORTIONS MAY BE USED FOR FACTORIES.





"The Treasurer's figures show the presence of 3,443 void houses in the City at a rateable value under £20 per annum. I should state that in my request to the City Treasurer I asked that the maximum rental basis of ten shillings per week should be taken, and not the rateable value, as this is the figure which is mentioned in the Housing, Town Planning, etc., Act, 1909.

"Having obtained from the Treasurer a card showing the street, the number of the house, its rental, and the date when found unoccupied, I gave the card to the sanitary inspector for the district, and asked him to visit the house with a view to determining whether it was reasonably fit for human habitation or not.

"As a result of the visits of the inspectors, we found that of the 3,443 houses reported to us as unoccupied 419 had been demolished, 217 were over ten shillings per week rental, and in 37 cases the address given on the card did not exist. This reduced the number of houses from 3,443 to 2,770.

"A further reduction has to be made in regard to a few houses (13) which were not used or were not likely to be again used as dwelling houses.

"This leaves 2,757 houses as void at the date of the City Treasurer's census, of which number 2,012 were considered fit for habitation and 745 as unfit.

"In the following table are shown the number of void houses in the City under 10s. per week, and also the number of those which are fit and unfit for human habitation:—

WARD.	Void Houses.	Fit for Habitation.	Unfit for Habitation.
Acock's Green ... ..	35	26	9
All Saints' ... ..	163	155	8
Aston ... ..	75	73	2
Balsall Heath ... ..	102	94	8
Duddeston and Nechells ... ..	309	128	181
Edgbaston ... ..	59	35	24
Erdington North ... ..	13	12	1
Erdington South ... ..	14	14	—
Handsworth ... ..	20	20	—
Harborne ... ..	8	8	—
King's Norton ... ..	13	13	—
Ladywood ... ..	160	120	40
Lozells ... ..	74	74	—
Market Hall ... ..	122	88	34
Moseley and King's Heath ... ..	20	20	—
Northfield ... ..	1	—	1
Rotton Park ... ..	161	147	14
St. Bartholomew's ... ..	235	149	86
St. Martin's and Deritend ... ..	341	298	43
St. Mary's ... ..	214	124	90
St. Paul's ... ..	350	185	165
Saltley ... ..	40	31	9
Sandwell ... ..	9	9	—
Selly Oak ... ..	24	24	—
Small Heath ... ..	25	25	—
Soho ... ..	49	38	11
Sparkbrook ... ..	40	40	—
Sparkhill ... ..	13	11	2
Washwood Heath ... ..	39	33	6
Yardley ... ..	29	18	11
Totals ... ..	2,757	2,012	745

"The following table shows the total number of unfit void houses, the number closed under the Housing of the Working Classes Act, and the number damp and dilapidated in each ward of the City:—

## VOID HOUSES (UNDER 10s.) UNFIT FOR HUMAN HABITATION.

WARD.	Total Unfits Void.	Already Closed under H. W. C. A.	Dilapidated.	Damp.	Damp and Dilapidated.
Acock's Green ... ..	9	9	—	—	—
All Saints' ... ..	8	—	6	2	—
Aston ... ..	2	2	—	—	—
Balsall Heath ... ..	8	7	—	—	1
Duddeston and Nechells ... ..	181	176	3	1	1
Edgbaston ... ..	24	20	4	—	—
Erdington North ... ..	1	—	1	—	—
Erdington South... ..	—	—	—	—	—
Handsworth ... ..	—	—	—	—	—
Harborne ... ..	—	—	—	—	—
King's Norton ... ..	—	—	—	—	—
Ladywood ... ..	40	31	9	—	—
Lozells ... ..	—	—	—	—	—
Market Hall ... ..	34	31	—	3	—
Moseley and King's Heath ... ..	—	—	—	—	—
Northfield... ..	1	—	1	—	—
Rotton Park ... ..	14	—	14	—	—
St. Bartholomew's ... ..	86	57	29	—	—
St. Martin's and Deritend ... ..	43	12	31	—	—
St. Mary's ... ..	90	79	7	—	4
St. Paul's ... ..	165	140	16	—	9
Saltley ... ..	9	8	1	—	—
Sandwell ... ..	—	—	—	—	—
Selly Oak ... ..	—	—	—	—	—
Small Heath ... ..	—	—	—	—	—
Soho ... ..	11	11	—	—	—
Sparkbrook ... ..	—	—	—	—	—
Sparkhill ... ..	2	2	—	—	—
Washwood Heath ... ..	6	—	6	—	—
Yardley ... ..	11	11	—	—	—
Totals ... ..	745	596	128	6	15

“The rentals of the void houses are set out in the table appended:—

## RENTALS OF VOID HOUSES (10/- PER WEEK AND UNDER) FIT FOR HUMAN HABITATION

WARD.	Under 4/-	4/- to 4/5	4/6 to 4/11	5/- to 5/5	5/6 to 5/11	6/- to 6/11	7/- to 7/11	8/- to 8/11	9/- to 9/11	10/-	TOTAL.
Acock's Green ... ..	—	1	2	—	1	14	3	2	1	2	26
All Saints' ... ..	1	23	33	14	20	40	4	5	5	10	155
Balsall Heath ... ..	3	3	10	16	14	22	10	10	5	1	94
Aston ... ..	2	4	14	5	23	13	3	6	1	2	73
Duddeston and Nechells ... ..	6	14	34	15	12	25	3	7	3	9	128
Edgbaston ... ..	—	5	9	4	2	5	1	5	2	2	35
Erdington North ... ..	—	—	—	1	1	3	1	3	2	1	12
Erdington South... ..	—	—	—	—	1	2	3	—	4	4	14
Handsworth ... ..	—	—	2	1	2	4	2	5	3	1	20
Harborne ... ..	1	—	—	1	—	1	1	2	—	2	8
King's Norton ... ..	—	—	—	—	—	3	2	1	7	—	13
Ladywood ... ..	5	11	26	28	15	10	7	9	4	5	120
Lozells ... ..	—	6	9	8	5	14	5	9	13	5	74
Market Hall ... ..	1	11	27	14	10	10	5	4	4	2	88
Moseley and King's Heath ... ..	1	—	—	1	—	4	2	4	6	2	20
Northfield... ..	—	—	—	—	—	—	—	—	—	—	—
Rotton Park ... ..	3	32	37	23	11	14	9	9	5	4	147
St. Bartholomew's ... ..	7	32	42	26	12	19	5	3	1	2	149
St. Mary's ... ..	14	32	35	9	11	5	4	7	5	2	124
St. Martin's and Deritend ... ..	27	63	75	31	28	38	17	9	5	5	298
St. Paul's ... ..	20	25	50	28	19	21	6	10	5	1	185
Saltley ... ..	6	2	2	2	3	12	1	2	1	—	31
Sandwell ... ..	—	—	—	—	—	3	—	3	3	—	9
Selly Oak ... ..	—	1	3	5	3	8	3	—	1	—	24
Small Heath ... ..	1	4	1	4	2	5	2	3	3	—	25
Soho ... ..	3	1	4	5	2	10	5	2	2	4	38
Sparkbrook ... ..	—	1	5	7	2	11	3	3	6	2	40
Sparkhill ... ..	—	—	—	1	—	2	—	6	2	—	11
Washwood Heath ... ..	—	—	—	5	5	18	1	4	—	—	33
Yardley ... ..	1	—	—	1	3	7	1	—	5	—	18
Totals ... ..	102	271	420	255	207	343	109	133	104	68	2,012

“Summarising the above table the following figures are obtained:—

Houses under 5/- per week ... ..	793
Houses from 5/- to 6/- per week ... ..	462
Houses from 6/- to 7/- per week ... ..	343
Houses from 7/- to 8/- per week ... ..	109
Houses from 8/- to 9/- per week ... ..	133
Houses from 9/- to 10/- per week ... ..	172

“The total number of houses in Birmingham at rents not exceeding 10/- per week is approximately 150,000, and of these 2,012 were void and habitable in November, *i.e.*, 1·34 per cent.”

The dearth of void houses was so acute that the ordinary housing work under Part II. of the Housing Act of 1890 was considerably curtailed, so that instead of dealing with property under this Act the Committee gave instructions for repairs to be carried out under the Public Health Acts, and thus keep up the houses rather than close them, with a considerable chance of having them demolished by the owners.

The following table gives particulars of the houses dealt with during 1914 and in previous years:—

YEAR.	Represented.		Closing Orders.		Rendered Habitable.		Demolished.		Demolition Notices.	
	Houses.	Properties.	Houses.	Properties.	Houses.	Properties.	Houses.	Properties.	Houses.	Properties.
1903... ..	304	85	65	19	155	32	34	19	51	15
1904... ..	1119	143	233	31	242	37	127	33	36	6
1905... ..	793	98	327	41	330	38	230	43	61	7
1906... ..	596	87	199	25	370	49	117	26	143	13
1907... ..	806	120	679	102	262	41	422	64	157	24
1908... ..	650	79	184	24	494	69	257	43	164	30
1909... ..	521	70	220	34	381	54	216	45	54	9
1910... ..	609	72	173	27	277	46	291	59	41	10
1911... ..	278	49	360	51	202	30	163	37	71	11
1912... ..	926	135	727	106	300	44	349	36	209	37
1913... ..	1166	227	1261	234	237	44	398	83	553	91
1914... ..	58	17	252	52	322	64	478	115	587	120
Total ...	7826	1182	4680	746	3572	548	3082	603	2127	373

As in former years, lists follow of the houses which have been represented, and in regard to which closing orders were made.

#### REPRESENTED AS UNFIT.

<i>Situation of Property.</i>	<i>No. of houses.</i>	<i>Situation of Property.</i>	<i>No. of houses.</i>
Adams Street, 1 and 6 in 21 court ... ..	2	Pritchett Street, 27 and 28 ... ..	2
Alfred Road, Handsworth, 68a ... ..	1	Sandy Lane, Camp Hill, 2 and 8 (formerly 4 houses, 2, 4, 6 and 8) ... ..	2
Bordesley Street, 31, 32, 33 and 1, 2, and 10 immediately at rear ... ..	6	St. George's Street, 4 unnumbered houses in 13 court ... ..	4
Coventry Road, 67 ... ..	1	St. George's Street, 52, 53 and 54, and 1 to 10 in 15 court at rear ... ..	13
Duddeston Row, 46 ... ..	1	Sheepcote Street, 9 in 5 court ... ..	1
Hollier Street, 64 and unnumbered house adjoining (65 ?) ... ..	2	Spencer Street, 25 ... ..	1
Irving Street, 1, 2, 3 and 4 in 30 court ... ..	4	Talbot Street, 60 ... ..	1
King Edwards Road, 65, 67, 69, 71, 73, 75 and 77 ... ..	7	Worcester Street, house over shop at 73 ... ..	1
Lower Tower Street, 61 and 62, and 7 unnumbered houses at rear ... ..	9	Total ... ..	58

## CLOSING ORDERS MADE.

<i>Situation of Property.</i>	<i>No. of houses.</i>	<i>Situation of Property.</i>	<i>No. of houses.</i>
Bishopsgate Street, 11 and 12 and 1-7 in 1 court ... ..	9	Aston Road, 6-11 in 12 court ... ..	6
Cecil Street, 13 and 14 ... ..	2	Cattells Grove, 1 rear 56 ... ..	1
Brearley Street, 177 and 179 and 1-9 at rear	11	Grosvenor Road, Aston, 27 and 7 at rear (Sunnyside) ... ..	8
Ryland Road, 117 and 118 and 1-3 at rear ...	5	Gladstone Street, 31 and 33 ... ..	2
Ryland Road, 119 and 120 and 1-3 at rear ...	5	Chapel Street, Handsworth, 2-11 in Ash Grove ... ..	10
Lower Essex Street, 29-32, 1-5 in 7 court, and 1-3 in 6 court ... ..	12	Snow Hill, 1-6 in 1 court ... ..	6
Camden Street, 33 and 35 and 2-5 in 7 court	6	Snow Hill, 1- rear 75 ... ..	4
Camden Street, 39 ... ..	1	Long Acre, 18 houses in Garden Walk ...	18
Camden Street, 3 and 4 rear 41 in 9 court ...	2	Camden Street, 1 rear 47 in 11 court ...	1
Camden Street, house rear 45 ... ..	1	Bordesley Street, 31-33 and 1, 2 and 10 at rear ... ..	6
Brearley Street, 304-306 and 1-5, 7, 8 and 10-14 in 56 court ... ..	14	King Edward's Road, 65-77 ... ..	7
Newhall Hill, 3 rear 61 ... ..	1	Aston Road, 1-5 in 12 court ... ..	5
Tower Street, 6 houses rear 28 in 8 court ...	6	Irving Street, 1-4 in 30 court ... ..	4
Unett Street, house rear 35 ... ..	1	Hollier Street, 64 and 65 ... ..	2
Unett Street, 2 and 4 rear 36... ..	2	Henry Street, unnumbered house rear 129 ...	1
Gt. Russell Street, 203 and 1-8 in 35 court ...	9	Duddeston Row, 46 ... ..	1
Gt. Russell Street, 206-208 and 1-8 in 36 court	11	St. George's Street, 4 cottages in 13 court ...	4
Holyhead Road, 373 ... ..	1	Talbot Street, 60 ... ..	1
Henry Street, 1, 7, 9, 11 and 13 ... ..	5	Sandy Lane, 2 and 8 ... ..	2
Gt. Brook Street, house rear 108 ... ..	1	Coventry Road, 67 ... ..	1
Gt. Lister Street, 1-5 in 18 court ... ..	5	St. George's Street, 52-54 and 1-10 in 15 court	13
Henry Street, 123-127 and 3 houses at rear	6	Lower Tower Street, 61 and 63 and 7 houses at rear ... ..	9
Station Road, Stechford, 4 cottages (Brook Cottages) ... ..	4	Sheepcote Street, 9 in 5 court ... ..	1
Flaxley Road, Stechford, 4 cottages (Flaxley Cottages) ... ..	4	Worcester Street, house over No. 73 (shop) ...	1
Hatchett Street, 63-66 ... ..	4	Adams Street, 1 and 6 rear 117 ... ..	2
Hatchett Street, 84, 85 and 1-3 at rear ...	5		
Hatchett Street, 86-88 ... ..	3	Total ... ..	252

## RENDERED HABITABLE AFTER CLOSING ORDERS.

<i>Situation of Property.</i>	<i>No. of houses.</i>	<i>Situation of Property.</i>	<i>No. of houses.</i>
Kenyon Street, six unnumbered houses at rear of 11 and 12 ... ..	6	Wilton Street, 28-34 and 4 houses at rear ...	8
Windsor Street, 202 ... ..	1	Miles Street, "Ash Grove and Lime Grove" ...	16
Dartmouth Street, 99, 101, 103, and 1, 2 and 3 at rear ... ..	6	Lawley Street, 82-86 and 1-3 at rear ... ..	6
Crawford Street, 1-4 ... ..	4	Proctor Street, 24 and 5 at rear ... ..	2
Lichfield Road, 2 and 3 rear of 456 and 457	2	Duke Street, 16 and house at rear ... ..	2
Pope Street, 9-15, and 7 houses at rear ...	14	Farm Street, 7-13 in 64 court ... ..	7
Centre Row Inge Street, 1 and 4-12 and 59 ... ..	11	Sun Street West, 13, 15 and 1-6 at rear ...	8
Red Hill Road, King's Norton ... ..	2	Mount Street, two unnumbered houses rear 173 ... ..	2
Hatchett Street, 61 and 62, and 1 and 2 in 18 court ... ..	4	Pritchett Street, 17, 19 and 20, and 2, 4, 5, 6 and 7 at rear ... ..	8
Coventry Street, rear of 76 ... ..	1	Gt. Hampton Row, 1-18 and 21, 23 and 25-7 "Colmore Terrace" ... ..	24
Park Lane, Aston, 5 and 6 in 30 court ... ..	2	Sun Street, 1-3 in 9 court ... ..	3
Hanley Street, 61-64, and 1-4 in 11 court ...	8	Wainwright Street, two unnumbered houses in 2 court ... ..	2
Francis Street, 8 ... ..	1	Francis Street, 1-4 in 18 court ... ..	4
Cemetery Lane, "Whittall Cottage" ... ..	1	Francis Street, 103 and 194 and rear ... ..	4
Lawley Street, 8-13 in 4 court ... ..	6	Bishopsgate Street, 12 and 2 and 4-7 at rear	6
Moorsom Street, 20 and 22, and 1 and 2 in 4 court ... ..	4	Smith Street, 75-78, and 1-4 at rear ... ..	8
		Lower Tower Street, 25 and 26 ... ..	2

RENDERED HABITABLE AFTER CLOSING ORDERS—*continued.*

<i>Situation of Property.</i>	<i>No. of houses.</i>	<i>Situation of Property.</i>	<i>No. of houses.</i>
Rowland Street, 6-14 } ... ..	13	Tower Street, 10 and 5 houses in 4 court ...	6
Windsor Street, 38-44 } ... ..		Warstone Lane, 83 and house at rear ...	2
High Street, Deritend, 30 and 31, and 1-4 at rear ... ..	6	Hospital Street, 2-7 and 9 in 38 court ...	7
Watery Lane, 68-71, and 1-5 at rear ...	9	Hollier Street, 64 and 65 ... ..	2
Oxford Street, 1-4 in 7 court ... ..	4	Lord Street, 6, 7 and 8 in 2 court ... ..	3
Gt. Lister Street, 10, 12, 13 and 14 ... ..	4	Dartmouth Street, 244, 246 and 248, and 1-3 at rear ... ..	6
Watery Lane, 64-67 ... ..	4	Moorsom Street, 12, 16 and 18, and 6 houses at rear. (5, 6 and 7 and 3 unnumbered houses) ... ..	9
Banbury Street, 41 ... ..	1	Newtown Row, 4, 5, 6 and 7 in 31 court ...	4
Thimble Mill Lane, 122, 123 and 4 houses at rear ... ..	6	Francis Street, 27 ... ..	1
Bradford Street, 1-6 in 23 court ... ..	6	Francis Street, 201 and 202 ... ..	2
Gt. Lister Street, 3 and 4 rear of 35 7 court ...	2	Essington Street, 61 and 62 ... ..	2
Nelson Street, 2, 3 and 4 rear of 84 ... ..	3	Lord Street, 19, 21 and 23 ... ..	3
Lower Tower Street, 3 and 4 rear of 6 ...	2	Rowland Street, 5 in 1 court ... ..	1
Corner of Great Lister Street, 27-30a } ... ..	8	Communication Row, 48 and 49, and 1-3 at rear ... ..	5
Windsor Street, 246-250 ... ..		Talbot Street, 60 ... ..	1
Windsor Street, 240-244, and three houses at rear ... ..	6		
Gt. Brook Street, 17 and 4 houses at rear ...	5		
Albion Road, Greet, 78-81 ... ..	4		
		Total ... ..	<del>478</del> 322

## DEMOLISHED.

<i>Situation of Property.</i>	<i>No. of Houses.</i>	<i>Situation of Property.</i>	<i>No. of Houses.</i>
Windsor Street, 223, 225 and 1 and 2 at rear	4	Oxford Street, 6 and 7 ... ..	2
Nelson Street, 85, 87 and 1 and 2 at rear ...	4	Bolton Road, 1-3 rear of 359 ... ..	3
Lower Tower Street, 1-8 in 9 court ... ..	8	St. George's Street, 48-51 and rear ... ..	8
Kenyon Street, third and last unnumbered houses rear of 11 and 12 ... ..	2	Proctor Street, 26-32 and rear ... ..	8
Trent Street, 5 and 9 unnumbered houses at rear ... ..	10	Regent Place, 25-28 Regent Row ... ..	4
Bacchus Road, 113 and 114 ... ..	2	Darwin Street, 56, 57 and 1-11 in 9 court ...	13
Crawford Street, 1 rear of 1 ... ..	1	Adams Street, 46 and 48 ... ..	2
Cheapside, 89 and 90 and 1-9 in 20 court ...	11	Windsor Street, 212 and 1 and 2 in 34 court	3
Brearley Street, 61, 63 and 1-3 in 23 court ...	5	Red Hill Road, cottage occupied by "Goldby" ... ..	1
Bishopsgate Street, 5 and 6 and 14-16 and unnumbered house at rear ... ..	6	Summer Lane, 3-9½ ... ..	8
Bishopsgate Street, 8-10 and 1-3 at rear ...	6	Constitution Hill, 4 rear of 69 ... ..	1
Glover Street, 139 and house adjoining ...	2	Duke Street, 1 and 2 in 6 court ... ..	2
Centre Row, 2 and 3 and unnumbered house rear of 3 ... ..	3	Cromwell Street, 1-4 in 69 court ... ..	4
Barn Street, 30 and house adjoining ... ..	2	Newhall Street, six unnumbered houses in 2 court ... ..	6
Henry Street, 53, 55 and 1-3 at rear ... ..	5	Windsor Street, 3-7 in 34 court ... ..	5
Northumberland Street, 19 ... ..	1	Windsor Street, 1 and 2 in 30 court ... ..	2
Hatchett Street, 3, 4 and 5 in 18 court ...	3	Pritchett Street, 18 and 3 at rear ... ..	2
Hatchett Street, 1, 2 and 3 in 19 court ...	3	Palmer Street, 32 and 33 and 1-11 at rear ...	13
Hatchett Street, 1, 2 and 3 in 20 court ...	3	Holloway Head, 1 rear of 61 ... ..	1
Lawley Street, 4, 5, 6 and 7 in 4 court at rear	4	Aston Road North, 2 houses rear 102 ...	2
Watery Lane, 3-11 rear 177 ... ..	9	Inge Street, 1 and 2 rear 18 and 19 ... ..	2
Brearley Street, 133-137 and 39 court ... ..	7	Gt. Hampton Row, 19 and 20 "Colmore Terrace" ... ..	2
Upper Portland Street, 13-17 and 1 and 2 at rear ... ..	5	Lower Trinity Street, house rear 67 ... ..	1
Sand Street, 2 and 3 rear of 9 and 10 ... ..	2	Francis Street, 5 in 18 court ... ..	1
Bishopsgate Street, 4 and 5 in 14 court ...	2	Bishopsgate Street, 9-13 rear of 5-10 ... ..	5
Well Street, 1 and 2 in 25 court ... ..	2	Barr Street, 1-5 in 9 court ... ..	5
Lower Trinity Street, 67 ... ..	1	George Street, 35 and 2-4 rear 31 ... ..	7
Lower Trinity Street, 71 and 1-3 at rear ...	4	Newhall Street, 190, 192 and house at rear }	
Chester Street, 12 and 14 and 1 and 2 at rear	4	Sun Street, 1-12 in 5 court ... ..	12
		Park Road, Aston, 3-7 in 11 court ... ..	5
		Bishopsgate Street, 11 and 1 and 3 at rear ...	3

DEMOLISHED—*continued.*

<i>Situation of Property.</i>	<i>No. of Houses.</i>	<i>Situation of Property.</i>	<i>No. of Houses.</i>
Francis Street, unnumbered house rear 162...	1	Bagot Street, rear of 84 ... ..	2
New John Street West, 345-347 and 1-15 in 46 court and 1 rear 347 ... ..	19	Bell Barn Road, 1 and 2 in 35 court ... ..	2
Richard Street, 5 rear 4 ... ..	1	Cromwell Street, house rear 235 ... ..	1
High Street, Deritend, 29 and 5-10 at rear ...	7	Lord Street, 1, 2, 3, 4 and 5 in 2 court ... ..	5
Bordesley Street, 4-6 in 9 court ... ..	3	Windsor Street, 3 and 4 in 40 court ... ..	2
Watery Lane, 3 unnumbered houses rear 71	3	Francis Street, 1 in 21 court ... ..	1
Lower Tower Street, 27 ... ..	1	Lawley Street, 6 in 6 court ... ..	1
Regent Row, 9 houses in "Cherry Court" ...	9	Adams Street, 3, 4, 5 and 6 in 3 court ... ..	4
Roland Street, 4 and unnumbered house rear 12 ... ..	2	Newtown Row, 1, 2, 3 and 8 in 31 court ... ..	4
Whittall Street, 2-10 in 2 court ... ..	9	Gt. King Street, unnumbered house rear of 147 ... ..	1
Willis Street, house in 4 court ... ..	1	Nelson Street, 3 and 4 rear 92 and 94 ... ..	2
Snow Hill, 1-6 in 1 court ... ..	6	Dartmouth Street, 242 ... ..	1
Long Acre, Garden Walk ... ..	5	Richard Street, 6 and 7 in 1 court ... ..	2
Heneage Street, 255, 256 and 3 and 4 at rear	4	Gt. Russell Street, 1 in 25 court ... ..	1
Tower Street, 32 and 1-8 in 9 court ... ..	9	Moorson Street, 14; house back 14 and 8 ...	3
Gt. Lister Street, 1-3 and unnumbered house rear 10-14 ... ..	4	Lord Street, 17 ... ..	1
Banbury Street, 40 ... ..	1	Newhall Street, 3 unnumbered houses in 2 court ... ..	3
Don Street, 39-49 ... ..	12	Communication Row, 4 rear 48 ... ..	1
Weaman Street, 2 in 19 court ... ..	1	Sun Street, 1 and 2 in 6 court ... ..	2
Nelson Street, 1 rear 84 ... ..	1	Gt. Francis Street, 202-206 ... ..	5
Sheepcote Lane, 1-4 rear 23 ... ..	4	Bacchus Road, 2 back 7 and 8 ... ..	1
Marshall Street, 1-10 ... ..	10	Floodgate Street } 114-118, and 1, 2, 3 and	10
Little Barr Street, 2-7 in 2 court ... ..	6	Moores Row } 2 unnumbered houses	
Lower Tower Street, 1 and 2 rear of 6 ... ..	2	Bordesley Street, 51, 52 and 53 } ... ..	6
Gt. Brook Street, 18 and house at rear ... ..	2	Trent Street, 23, 24 and 25 } ... ..	1
Tower Street, 9 and house at rear ... ..	2	Newhall Street, 3 rear 61 ... ..	
Cecil Street, 6 and 7 and 1-5 at rear ... ..	7	Windsor Street, 264 ... ..	1
Warstone Lane, 2 rear 83 ... ..	1	Meriden Street, 62-65 and 1-17 in 6 court ...	21
Hospital Street, 1 and 8 in 38 court ... ..	2		
Tower Street, 33-35 and 1 and 4 in 11 court ...	5	Total ... ..	322 4 78.

## DEMOLITION ORDERS MADE.

<i>Situation of Property.</i>	<i>No. of houses.</i>	<i>Situation of Property.</i>	<i>No. of houses.</i>
High Street, Deritend, 16 rear of 34 ... ..	1	Gt. Brook Street, 123 and 1-6 in court 12 ...	7
Windsor Street, 104-116 and 5 houses in 20 court, 1 and 2 in court 22, and 2 and 3 and unnumbered house in court 24 ... ..	17	Great Brook Street, 112 ... ..	1
Gt. Brook Street, 130-135 and 1-5 in court 15 ... ..	11	Smith Street, 57 and 1 and 2 and unnumbered house in 15 court ... ..	4
Chester Street, 12 and 14 and 1 and 2 at rear ... ..	4	Ashted Row, 213-215 ... ..	3
Dartmouth Street, 242 ... ..	1	Richard Street, 6 and 7 in court 1 ... ..	2
Newhall Street, 190 and 192 and house at rear of 190 ... ..	7	St. George's Street, 55 and 56, and 1-9 at rear	11
George Street, 35 and 2 3 and 4 at rear 31 ...	5	Windsor Street, 3 and house at rear of 200 in court 30 ... ..	2
Bow Street, 12-16 ... ..	5	Gt. Lister Street, 28-30a ... ..	4
Barr Street, 1-5 in court 9 ... ..	5	Windsor Street, 240-250 and 1-5 in court 40	11
Bell Barn Road, 1 and 2 in court 35 ... ..	2	Barr Street, 125-131 and 1-12 in court 27 ...	16
Park Road, Aston, 3-7 in 11 court ... ..	5	Bloomsbury Street, 2, 3, 5, 6 and 7 in court 6	5
Grosvenor Road, Aston, 88-96 ... ..	5	Sheepcote Lane, 12 and 13 and 1-5 at rear ...	7
Willis Street, unnumbered house in court 4	1	Sheepcote Lane, 15-17 and 1-7 at rear ...	10
Heneage Street, 183-187 ... ..	5	Sheepcote Lane, 18 and 19, and 1 and 2 and unnumbered house at rear ... ..	5
Barn Street, 30 and unnumbered house adjoining ... ..	2	Heneage Street, 133-137 and 1-5 in court 20	10
Sun Street, 1-12 in 5 court ... ..	12	Dartmouth Street, 1, 3, 4, 5 and 6 in court 16a	5
Sun Street, 1 and 2 in court 6 ... ..	2	Brook Lane, Billesley, Yew Tree Cottage and Holly Tree Cottage ... ..	2
		Stratford Road, Hall Green, Hall Green Cottage ... ..	1

DEMOLITION ORDERS MADE—*continued.*

<i>Situation of Property.</i>	<i>No. of Houses.</i>	<i>Situation of Property.</i>	<i>No. of Houses.</i>
Dartmouth Street, 2 in court 16 ... ..	1	King Alfred's Place, 9 and 10, and 1-4 at rear	6
Palmer Street, 32 and 33 and 1-11 in court 7	13	Cambridge Street, Wharf Cottage ... ..	1
Palmer Street, 48 and 1-5 at rear ... ..	6	Bagot Street, 91 ... ..	1
Gt. Francis Street, 202-206 ... ..	5	Garrison Street, 30 and house at rear ... ..	2
Windsor Street, 264 ... ..	1	Barr Street, 151 and house at rear ... ..	2
Anington Road, Hay Mills, 7 cottages known as "Waterloo Cottages" ... ..	7	New John Street, 106 ... ..	1
Weaman Street, 1, 3, 4, 5, 6, 7 and 8, and 1 unnumbered house in court 7 ... ..	8	Dartmouth Street, 261 and 263 ... ..	2
Proctor Street, 34-52, and 1-5 in court 2 and 1-4 in court 1 ... ..	19	Well Street, 1-4 in court 24 ... ..	4
Lord Street, 112-118 ... ..	4	Sheepcote Lane, 1-4 rear of 20-23 ... ..	4
Dartmouth Street, 244-248 & 1-3 in court 16b	6	Rupert Street, 3 and 4 in court 3 ... ..	2
Bow Street, 44-49 and 6 houses at rear ... ..	12	Gt. Lister Street, 1 and 2 in court 33 ... ..	2
Meriden Street, 62-64 and 1-17 in court 6 ... ..	20	Cemetery Lane, Key Hill, 1-3 ... ..	3
Meriden Street, 65 ... ..	1	Cecil Street, 13 and 14 ... ..	2
Francis Street, 1-4 at rear 68 ... ..	4	Floodgate Street, 114-118 ... ..	5
Duke Street, 2-4 in court 2 ... ..	3	Moore's Row, 8 and house adjoining ... ..	2
Francis Street, house at rear of 162 ... ..	1	Moore's Row, 1-3, house adjoining 3, and house rear of 3 ... ..	5
Francis Street, house in court 2 ... ..	1	Bordesley Street, 51-53 ... ..	3
Francis Street, 27 ... ..	1	Trent Street, 23-25 ... ..	3
Cromwell Street, house at rear of 235 ... ..	1	Palmer Street, 15½ and 1-3 at rear ... ..	4
Henry Street, 1-3 in court 2 ... ..	3	Legge Street, 46 and 2 houses at rear ... ..	3
Heneage Street, 82 and 83 ... ..	2	Bagot Street, 2 unnumbered houses at rear of 84 ... ..	2
Cecil Street, 4 and 5, and 1-8 at rear ... ..	10	Henry Street, 119 and 121, and 1-4 at rear... ..	6
Palmer Street, 49-54, and 1-5 in 13 court ... ..	11	Camden Street, 33 and 35, and 2-5 in 7 court	6
Albion Road, Greet, 9 houses, "Railway Terrace, rear 45 ... ..	9	Camden Street, 39 ... ..	1
Barr Street, 1-6 in 15 court ... ..	6	Camden Street, 3 and 4 in 9 court ... ..	2
Lower Trinity Street, 42 and house adjoining Henry Street, 1-4 rear 63 ... ..	2	Newhall Hill, 3 at rear of 61 ... ..	1
Henry Street, 1-4 rear 63 ... ..	4	Richard Street, 59-63, and 1-5 in 8 court ... ..	10
Tower Street, 32 and 1-8 in court 9 ... ..	9	Station Road, Stechford, 4 cottages known as "Brook Cottages" ... ..	4
Tower Street, 33 ... ..	1	Hatchett Street, 63-66 ... ..	4
Tower Street, 34 and 35 and 1 and 4 at rear... ..	4	Aston Road, 6-11 in court 12 ... ..	6
Cecil Street, 6 and 7 and 1-5 in court 19 ... ..	7	Cattell's Grove, 1 at rear of 56 ... ..	1
Constitution Hill, house at rear of 69 ... ..	1	Long Acre, "Garden Walk," ... ..	13
Cemetery Lane, house formerly occupied by "Harlow" ... ..	1	Scotland Street, 10 and 5 and unnumbered house at rear ... ..	3
Key Hill, 2-6 rear 45 and 46 ... ..	5	Tower Street, 6 houses at rear 28 in court 8... ..	6
Park Lane, Aston ... ..	2	Henry Street, 1, 7, 9, 11 and 13 ... ..	5
Gt. Russell Street, 1 in court 25 ... ..	1	Gt. Brook Street, house at rear 108 ... ..	1
Pritchett Street, 24 and 25 and 1-6 at rear in court 5 ... ..	8	Brearley Street, 304 and 306, and 1-5, 7, 8, 10-12, 13 and 14 in court 56 ... ..	14
Holloway Head, 2-9 in court 17 ... ..	8	Camden Street, house at rear 45 ... ..	1
Nelson Street, 3 and 4 rear 94 ... ..	2	Camden Street, 1 in court 11 ... ..	1
Gt. Barr Street, 1-6 rear 92 ... ..	6	Flaxley Road, Stechford, 4 cottages known as "Flaxley Cottages" ... ..	4
New John Street, 44 and 45 and 1-5 in court 9	7	Hatchett Street, 84 and 85, and 1-3 in ct. 26	5
Bell Barn Road, 64 and 1-6 at rear ... ..	7	Snow Hill, 1-4 rear 75 ... ..	4
Little Barr Street, 2-7 in court 2 ... ..	6		
New John Street, 3 unnumbered houses at rear 62 ... ..	3	Totals ... ..	587

The following is a statement in the form required by Article V. of the Housing (Inspection of District) Regulations, 1910, in regard to the Inspection of Dwelling Houses under Section 17 (1) of the Housing, Town Planning, etc., Act, 1909:—

(1) Number of dwelling-houses inspected under and for the purposes of the Section ... ..	8,201
(2) Number of such dwelling-houses which were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation ... ..	153
(3) Number of dwelling-houses in respect of which representations were made to the local authority with a view to the making of closing orders ... ..	58

(4)	Number of dwelling-houses in respect of which closing orders were made by the local authority ... ..	252
(5)	Number of dwelling-houses, the defects in which were remedied without the making of closing orders ... ..	6,946
(6)	Number of dwelling-houses which, after the making of closing orders, were made fit for human habitation ... ..	322
(7)	General character of the defects found to exist in the dwelling-houses inspected. (See tabular statement of sanitary defects found on page 88)	

In the next table is given the number of new houses erected in each ward of the City since 1908 :—

NUMBER OF HOUSES ERECTED DURING THE LAST SEVEN YEARS.

	1908	1909	1910	1911	1912	1913	1914
Acock's Green ... ..	0	0	0	0	93	132	296
All Saints' ... ..	10	12	8	1	0	0	0
Aston ... ..	8	1	0	0	0	0	2
Balsall Heath ... ..	20	12	6	0	6	11	1
Duddeston and Nechells ... ..	9	0	3	0	0	2	0
Edgbaston ... ..	29	23	29	5	8	18	1
Erdington (North) ... ..	60	45	43	7	107	165	103
Erdington (South) ... ..	312	437	117	116	35	95	108
Handsworth ... ..	214	132	70	22	61	44	20
Harborne ... ..	25	96	40	28	21	53	23
King's Norton ... ..	301	231	130	137	16	93	62
Ladywood ... ..	10	5	3	1	2	2	4
Lozells ... ..	9	0	0	0	0	0	1
Market Hall ... ..	0	0	0	0	0	0	0
Moseley and King's Heath ... ..	112	85	89	85	66	107	43
Northfield ... ..	66	88	50	35	19	34	31
Rotton Park ... ..	8	2	2	9	9	10	4
St. Bartholomew's ... ..	4	0	0	0	13	12	4
St. Martin's and Deritend ... ..	0	13	0	0	0	0	0
St. Mary's ... ..	0	0	0	2	0	0	1
St. Paul's ... ..	0	0	0	0	0	0	0
Saltley ... ..	547	190	164	149	56	133	194
Sandwell ... ..	131	76	45	42	41	110	34
Selly Oak ... ..	153	89	169	155	62	49	59
Small Heath ... ..	335	342	65	122	16	60	17
Soho ... ..	220	141	181	60	58	49	46
Sparkbrook ... ..	1	15	1	0	0	0	0
Sparkhill ... ..	0	0	0	0	205	214	141
Washwood Heath ... ..	257	407	570	190	142	112	160
Yardley ... ..	0	0	0	0	71	26	41
Totals ... ..	2,841	2,442	1,785	1,166	1,107	1,531	1,396

VENTILATION OF WORKING CLASS DWELLINGS.

(Summary of a Report by Dr. W. H. Davison, Assistant Medical Officer of Health, on an investigation into the ventilation of artizan dwellings in Birmingham, with special reference to that of back-to-back houses, as compared with houses having through ventilation.)

The essential difference between back-to-back and through houses is that in a through house both front and back walls belong exclusively to the dwelling, and in both these walls there are windows communicating with the external air, while in the back-to-back house the back wall is a party wall belonging in common to another dwelling in the rear. All openings, therefore, communicating with the external air are situated in one wall of the building.

It has been contended that in the back-to-back house free perflation of air cannot be obtained, and that the air of the rooms above the ground floor is more apt to be drawn from the more or less vitiated air of the room below.



Conditions which make an ill ventilated inhabited air space disagreeable, and if breathed continually harmful:—

The effete matters thrown off during respiration are carbon dioxide at the rate of .6 to 1 cubic foot per hour, watery vapour from the lungs and skin in sufficient quantity to saturate 120 cubic feet of air at 60 deg. F., and at the same time about 340 British thermal units of heat are given off.

It has long ago been shown that the CO<sub>2</sub> which is given off during respiration and by all the processes of combustion in which carbonaceous matter is used was absorbed by plant life, the carbon being used to form the woody fibres and cells of growing plants, while the oxygen escaped free. As soon as this was accepted, carbon dioxide was substituted for oxygen as the factor which influenced the health-giving properties or otherwise of the air.

At a still later period doubts began to be raised as to the injurious effects of CO<sub>2</sub>, and it was asserted by some that the organic matter which always accompanies the CO<sub>2</sub> given off during respiration was really the injurious factor in an unventilated space.

We know that the discomfort caused by badly ventilated rooms has nothing to do with the chemical composition of the air.

It has been proved by experiments that air containing 300 parts per 10,000 of CO<sub>2</sub> can be breathed without causing any inconvenience, and the proportion of CO<sub>2</sub> in the worst ventilated rooms rarely exceeds 20 parts per 10,000. It is now definitely proved that the exhalations of a healthy person contain no poisonous organic matter.

Flugge, in 1905, pointed to the fact that the symptoms of inconvenience, oppression, lassitude, or headache experienced in an ill-ventilated room are to be attributed not to the CO<sub>2</sub> or organic matter exhaled by those present, but chiefly to the fact that the combined temperature and amount of water vapour present in the air had become increased beyond the point at which proper cooling of the body occurs. Dr. Haldane, by a series of experiments on himself and others in a specially constructed chamber, found that when the subject of the experiment was at rest and the air still, the point at which the temperature regulation of the body began to fail was when the wet bulb temperature rose above 88 deg. F. In moving air a wet bulb temperature of 93 deg. F. could, however, be borne.

A stagnant atmosphere by hindering free evaporation is perhaps the worst enemy to health. The most important factors governing the health and comfort of the occupants of a given room are:—

Movement, coolness and proper degree of the relative moisture of the air (Leonard Hill).

Section 43 of the Housing and Town Planning Act, 1899, makes the future erection of back-to-back houses illegal. In Birmingham, while no back-to-back houses have been built for over forty years, we have still a legacy of between forty and fifty thousand houses of this type, and it was at Dr. Robertson's suggestion that I made some experiments with a view of finding out the rate of exchange of air met with in this type of house, and compared it with that of a through house.

The method employed was to generate a known quantity of CO<sub>2</sub> by means of specially prepared candles (weighed before and after the experiment, and giving off a known amount of CO<sub>2</sub>) placed at different points of the room and allowed to burn for a known time. A sample of air was collected and the amount of CO<sub>2</sub> present was determined by Pettenkoffer's method. Having calculated the amount of CO<sub>2</sub> delivered into a room in a given time, I found the amount of CO<sub>2</sub> present at the end of that time. It was then possible to determine the rate at which the air in the room was being changed by ventilation.

(a) Dealing first with the exchange of air in rooms with windows and doors closed, and having no chimney flue or special ventilator.

Pettenkoffer was the first to show by definite experiment that in such a completely closed room there is always a very considerable exchange of air going on. The capacity of the room used in his experiments was 3,000 cubic feet, and he found that the time required for a volume of air equal to that of the capacity of the room to enter was from 60 to 204 minutes. When we come to consider the rate of exchange of air in rooms of different sizes, it is found that there is a more rapid exchange of air in smaller rooms. The reason for this is that the rate of change of air in a closed room must depend on the extent of the wall, floor and ceiling surfaces through which the air can pass, and from the following table you will see that the proportion of surface air to cubic contents increases with the decrease in the size of the room.

Contents, Cubic feet.	Surface Area, Square feet	Relation of Surface Area to Cubic Contents.
3,000	1249.8	2.4
1,953	937	2.08
1,500	786.6	1.9
1,000	600	1.6
750	494.6	1.5
592	423	1.4
415	334	1.24
383	319	1.20

It shows that, other factors being equal, the rate of exchange of air in a room of 383 cubic feet is double that of a room of 3,000 cubic feet.

Before comparing the ventilation in rooms of various sizes corrections are therefore necessary on this basis.

In order to compare the ventilation of a through house with that of a back-to-back house, I selected a room in my own house having a cubic capacity of 1,950 feet, and estimated the ventilation on twelve occasions, with the window, door, and chimney flue closed. Simultaneously the ventilation of three completely closed rooms in back-to-back houses were estimated. The average cubic contents of these three rooms was 415 feet.

The average rate of ventilation in the large room was 1,002 feet per hour and taking this rate the time required for a volume of air equal to that of the capacity of the room to enter was 116 minutes.

The average rate of ventilation in the small rooms was 598 cubic feet per hour, and the time required for a volume of air equal to that of the capacity of the room to enter was 41.6 minutes.

Now, in order to compare the rate of ventilation in these two rooms, it is necessary to take the rate of ventilation found for the larger room and calculate from it what rate you would expect to find in the small room on the basis of the relation of surface area to cubic contents.

It will be found that the rate of exchange of air in a completely closed room in a well-built through house is much slower than in the same sized room in a back-to-back house.

The reason of this increased ventilation in the back-to-back house is due to thinner walls, badly fitting doors and windows, absence of paper on the walls, open floor boards, etc. In the larger houses the jerry builders have not been at work, and the rooms are more airtight.

The factors which tend to increase the rate of ventilation in back-to-back houses are also present in the poorer types of through houses.

In order to compare the ventilation of rooms in back-to-back houses and through houses occupied by the artisan class, twenty houses were selected and the ventilation estimated on nine occasions. Each room had a fireplace freely open and the window closed.

The results when averaged showed that for rooms of 1,000 cubic feet the air was completely changed every 27.2 minutes in the back-to-back house and every 27.9 minutes in the through house.

When the windows were opened four inches at the top the air in the back-to-back house was changed every nineteen minutes and in the through house every 14.8 minutes.

The difference in ventilation in favour of the through house became more apparent in hot and calm weather.

In order to determine the local circulation of air in back-to-back houses, the following method was employed.

The selected house was thoroughly flushed with fresh air by opening all doors and windows. Two rooms A and B were selected, and a sample of the air in each was taken as a control. In one of the rooms, A, CO<sub>2</sub> was generated by burning candles, and by estimating the amount of CO<sub>2</sub> present in the air of room B from time to time, it was possible to determine whether the air from room A found its way into room B.

In the type of house consisting of one living room and one bedroom and one attic, each above the other, all rooms having fireplaces, it was found that, provided the doors were kept closed, no appreciable exchange of air took place between the various rooms. With the doors open there was some exchange of air from the bedroom to the attic immediately above it. In houses having an attic unprovided with a fireplace or special ventilator, the attic air was drawn into the room below. Even when the doors were closed by inserting a 24 square inch ventilator in the external wall of the attic, no exchange of the air took place between bedroom and attic so long as the doors were kept closed.

#### CONCLUSIONS.

Through ventilation can be obtained in every room of a back-to-back house which is provided with a fireplace as well as a window, and the ventilation under ordinary conditions compares favourably with that found in a similar through house.

The rate of exchange of air in rooms of back-to-back houses which have a fireplace approaches the limit that can be borne with comfort in cold weather. Any attempt to increase the ventilation by means of additional openings would give rise to draughts, and probably lead to the permanent closure of these openings or the chimney flue.

The efficiency with which a room is flushed with fresh air by opening the window is not so great in a back-to-back house as a through house, and this is more marked in hot calm weather. This tends to make the back-to-back house uncomfortably close during the summer months, particularly the house with a south or west aspect.

In back-to-back houses containing three rooms, one on each floor, the ventilation is not satisfactory when the attic is unprovided with a fireplace. Not only does the air in the attic contain a high percentage of moisture during occupation, but there is a tendency for this impure air to be drawn into the room below.

The proportion of back-to-back houses having only one bedroom provided with a fireplace is greatly in excess of through houses having the same arrangements for ventilation.

The existing means of ventilation in a large number of back-to-back houses and in a certain number of through houses could be much improved.

Table showing results obtained in nine consecutive instances out of 438 similar investigations made in individual Houses.

Index Number.	Address.	Type of House.	Room conditions during experiment.	Duration of experiment in hours.	Number of candles burned.	Cubic contents of room in feet.	Grammes of candle consumed.	CO <sub>2</sub> in cubic feet given off.	Cubic feet of CO <sub>2</sub> given off per hour.	Parts per 10,000 CO <sub>2</sub> in external air.	CO <sub>2</sub> in parts per 10,000 found after experiment.	Parts per 10,000 CO <sub>2</sub> in room before experiment		Temperature of room.		Temperature of external air, $t^{\circ}$ .		Of Experiment.		Direction of wind.	Horizontal velocity of wind in mts. per 24 hrs.	Ventilation of room in cubic feet per hour.	Number of minutes required for a volume of air equal to that of the room to enter.	Reference to Plan.	Remarks.
												Dry Bulb	Wet Bulb	Before	After	Dry	Wet	Date.	Time.						
430	70 Mount St. ...	Through ...	Large bedroom, hall fireplace, door closed, window open 4 in. at top ...	4.0	3	1,173	91.6	5.49	1.37	3.10	5.41	75	65	77	June 17	4.5 p.m.	E.N.E.	7	7,314	9.6	B	S.S.E.			
431	3 George Terrace, Trevor Street ...	Back-to-back	Large bedroom, window closed open 4 ins. at top ...	4.0	3	1,219	86.3	5.00	1.25	3.10	9.00	—	—	—	—	—	—	—	3.25 p.m.	—	—	34.5	H	Walls papered in good repair. In-let on floor. S.S.E.	
432	4 George Terrace, Trevor Street ...	Back-to-back	Ditto, window open ...	4.0	3	1,215	81.6	4.90	1.22	3.10	6.63	78	—	—	—	—	—	—	3.30 p.m.	—	—	21.0	H	Walls unpapered, ceiling cracked, no floor covering. S.S.E.	
433	53 Scholefield St.	Through, aspect N.W.	Large bedroom, window closed open 4 ins. at top...	4.0	3	1,465	93.4	5.41	1.35	3.22	6.58	76	—	75	June 18	4.50 p.m.	—	—	—	—	—	4,032	21.8	D	N.W.
434	3 Portland Place Scholefield Street ...	Back-to-back aspect N.W.	Ditto ...	4.0	3	1,327	91.3	5.29	1.32	3.22	7.87	—	—	—	—	—	—	—	—	—	—	2,853	27.9	J	N.W.
435	81 Scholefield St.	Through, aspect N.W.	Large bedroom, door and window closed ...	4.0	3	1,750	93.73	5.43	1.35	3.22	7.42	73	66	75	—	—	—	—	—	—	—	3,240	32.4	C	Aspect of room, N.W.
436	82 Scholefield St.	Through, aspect N.W.	Ditto ...	4.0	3	1,730	96.6	5.60	1.40	3.22	7.23	76	—	75	—	—	—	—	—	—	—	3,494	29.7	C	Ditto, N.W.
437	1 Portland Place, Scholefield St. ...	Back-to-back aspect N.W.	Do., window and door closed ...	4.0	3	1,359	95.26	5.52	1.38	3.22	9.83	—	—	—	—	—	—	—	—	—	—	2,090	39.0	J	N.W.
438	4 Portland Place, Scholefield St. ...	Back-to-back aspect N.W.	Do., window and door closed	4.0	3	1,360	90.46	5.24	1.31	3.22	10.41	75	68	—	—	—	—	—	—	—	—	1,826	44.7	J	N.W.

## COMMON LODGING HOUSES.

The appended list of work done under the section relating to common lodging houses indicates that there are 37 common lodging houses in Birmingham, with accommodation for 2,523 lodgers, one new house having been registered, and four closed during the year. In addition, however, to the accommodation called common lodging houses we have the Rowton House, which has accommodation for over 800 men, and a large number of houses where male lodgers only are taken, two or three at a time, into dwelling houses, and are lodged with the family. These are dealt with as sub-let houses, although strictly they do not come within the definition of a sub-let house, and are inspected regularly during the daytime. The registered common lodging houses, in addition to day inspections, are inspected at night time, and the items noted during the year which required attention are given in the following list:—

## COMMON LODGING HOUSES.

Visits paid by day ... ..	2196
"    "    "    night ... ..	215
Windows not thrown open ... ..	26
Floors requiring cleansing ... ..	32
Bedding to be provided ... ..	184
Ventilation to be improved .. ..	8
Repairs to walls, floors, roofs, windows ... ..	93
Houses to be linewashed ... ..	77
Tables to be cleansed .. ..	4
Bedcots to be cleansed ... ..	20
Bed linen to be cleansed ... ..	11
Fire-grates to be repaired ... ..	3
Gas light protectors to be provided ... ..	5
Sinks to be repaired ... ..	4
Water-closets to be provided ... ..	1
"    "    to be repaired ... ..	49
"    "    to be opened and cleansed ... ..	10
Ash-tubs or bins to be provided .. ..	19
Accumulations of rubbish to be removed ... ..	6
Yards to be paved ... ..	17
Drains to be put in order ... ..	2
Waste pipes to washhouses to be provided ... ..	5
Fire buckets to be provided... ..	12
Fire escapes to be repaired ... ..	1

During the year the common lodging house inspector, Inspector Thomas, who had been looking after lodging houses with great ability, died after having spent over twenty years at the work. His services were very much appreciated, and very effective, and it was with great regret that the members of the Public Health Department staff heard of his death.

## HOUSES SUB-LET IN LODGINGS.

In Birmingham, as in other towns, about the most unsatisfactory part of the work of the Health Department is the supervision of houses sub-let in lodgings. This is due to the fact that the occupants are probably the most degraded class in the whole City, and in dealing with this class one gets a type of landlord who for his own protection must be harsh and exacting.

The matter of the improvement of this group of dwellings was considered by the Public Health Committee during the year, and several suggestions were made. Among these were the following:—(1) The incorporation in our bye-laws of the powers conferred by the Housing and Town Planning Act to enable the actual owner of the house to be held responsible for its structural condition; (2) power was obtained by Section 26 of the Birmingham Corporation Act, 1914, to make a bye-law requiring a separate approach to each room or group of rooms separately occupied without passing through any other room or tenement, and (3) for requiring all bedding to be kept in repair. Having obtained these new powers, the Public Health Committee

are engaged in re-drafting the bye-laws, with a view to taking more drastic action in the future in regard to these houses.

The following list shows the work done by the Inspector during last year in connection with these houses :—

Houses on the register	...	...	...	...	...	579
Lodgers allowed	..	..	..	..	..	2919
Visits paid to registered houses	...	...	...	...	...	3288
Overcrowding	...	...	...	...	...	36
Improperly mixing the sexes	...	...	...	...	...	19
Houses requiring repair	...	...	...	...	...	308
Rubbish to be removed	...	...	...	...	...	15
Rooms not swept daily	...	...	...	...	...	436
Passages not swept	..	..	..	..	..	160
Stairs not swept	..	..	..	..	..	299
Filthy bedding to be cleansed	...	..	..	..	..	15
Houses to be cleansed	...	...	...	...	..	277
Drains, etc., obstructed	...	...	...	...	...	98
Water-closets to be repaired...	...	..	..	..	..	63
Ash-tubs to be provided	...	...	...	...	...	29
Windows not opened	...	...	...	..	...	515

#### CANAL BOATS.

The following is a copy of the report made in accordance with the provisions of the Canal Boats Acts :—

#### PUBLIC HEALTH AND HOUSING DEPARTMENT.

THE COUNCIL HOUSE, BIRMINGHAM,

15th January, 1915.

Gentlemen,

In compliance with Section 3 of the Canal Boats Act, 1884, I present to you the annual report of the work accomplished under the Canal Boats Acts, 1877 and 1884, and the regulations of the Local Government Board made thereunder, for the year ending December 31st, 1914.

Inspector W. G. E. Childs has continued to hold the office of Canal Boats Inspector. In addition to this he is Inspector of Houses let in Lodgings in the City of Birmingham, and he also performs certain duties in connection with the school attendance of children in canal boats. His salary for the combined appointment is £117 per annum, together with uniform and cycle allowance. His office is at the Council House, Birmingham.

#### INSPECTION OF BOATS.

During the year under review 1,048 boats, registered to carry 3,234½ adults, were inspected, and the numbers of persons actually found on board these boats were 1,474 men, 627 women, and 615 children, a total of 2,716 persons—equivalent to 2,408½ adults.

The distribution of the inspections over the four quarters of the year is shown as follows :—

First quarter	...	...	...	...	258 inspections.
Second quarter	...	...	...	...	316 „
Third quarter	...	...	...	...	223 „
Fourth quarter	...	...	...	...	251 „

The following table gives the yearly number of inspections made since 1906, with the number of adults the boats were authorised to carry :—

Year.	No. of Boats Inspected.	No. of Adults these Boats are registered to carry.
1906...	1,059	3,507½
1907...	1,047	3,348
1908...	1,030	3,354½
1909...	738	2,416
1910...	1,044	3,399½
1911...	1,062	3,511½
1912...	1,120	3,529
1913...	1,082	3,314
1914...	1,048	3,234½

Of the 1,048 boats inspected 981, or 93·6%, were found to be complying with the Acts and Regulations, but in 67, or 6·4%, contraventions of various kinds were found, and notices were served on the owners in every case.

In 19 of these boats one contravention existed in each; in 7 boats two contraventions in each; in 33 boats three contraventions in each; and in 8 boats four contraventions.

The total number of infringements found was, therefore, 164, and these are classified in the following table, which also indicates and classifies the complaints remedied:—

	Brought forward from 1913 to be dealt with.	Number found during 1914.	Contraventions Remedied during 1914.	Carried forward to be dealt with in 1915.
Registration ... ..	1	3	4	—
Notification of change of Master	—	—	—	—
Certificates ... ..	1	10	9	2
Marking ... ..	2	45	38	9
Overcrowding ... ..	2	7	9	—
Separation of the sexes	2	5	7	—
Cleanliness ... ..	—	—	—	—
Ventilation ... ..	—	—	—	—
Painting of cabins ... ..	3	42	35	10
Repairs of cabins ... ..	5	41	37	9
Cabins leaking ... ..	1	9	8	2
Provision of water cask	1	1	2	—
Removal of bilge-water	—	1	1	—
Notification of infectious disease	—	—	—	—
Admittance of Inspector	—	—	—	—
	18	164	150	32

The custom of previous years of writing to the owners in cases where the complaint notes have not been returned within a reasonable time has again been followed, and has on the whole worked quite satisfactorily, the complaint notes being either duly returned or satisfactory reasons given for delay. In one case, however, several applications met with no response, and legal proceedings were taken against the owner of the boat "Kathleen," No. 856, Wolverhampton, for two contraventions, viz., want of proper water cask on board, and the uninhabitable condition of the cabin. A fine of 5s. with 8s. costs—total 13s.—was imposed.

#### INFECTIOUS DISEASE.

On July 30th a case of scarlet fever was reported on the boat "Queen of the Ocean," No. 1517, Birmingham, which was lying at a wharf in the City. The patient, a girl of eleven years, was removed to hospital, and the boat thoroughly disinfected on the day of notification. The child became ill on the day of arrival in Birmingham, and as she had been travelling from London since July 22nd, it is probable that she had contracted the disease some time during the journey. The parents were not aware that she had been in contact with any infected person, and thus the source of the disease could not be traced. The boat remained in the City for some time after this occurrence, and no further cases developed on board.

No other cases of infectious disease of any kind has been found on the boats during the year.

#### NUMBER OF BOATS ON REGISTER.

The number of boats on the register on December 31st, 1914, was 457, as compared with 448 for the corresponding date in 1913. The figures for the five previous years are as follows:—

On December 31st, 1908, there were 396 boats on the register.

31st, 1909	397	"	"
31st, 1910	402	"	"
31st, 1911	419	"	"
31st, 1912	433	"	"

#### BOATS IN USE, OR AVAILABLE.

On the basis of the figures arrived at in 1909 (as explained in the report of that year), the total number of boats registered in Birmingham which are believed to be in use or available is about 324. This figure must be regarded as approximate only.

Of the total number given above 16 of them are motor boats, and consist of:—

Nos. 1242 and 1249	Registered in 1911.
Nos. 1256, 1275, and 1276	Registered in 1912.
Nos. 1286, 1290, 1299, 1301, and 1304	Registered in 1913.
Nos. 1308, 1310, 1314, 1316, 1320, and 1325	Registered in 1914.

These are all propelled by crude oil internal combustion engines, and are fitted with cabin immediately astern of the engine room.

#### REGISTRATION OF BOATS.

There have been 20 boats registered in Birmingham during 1914, and 11 registrations cancelled, making a net increase of 9 boats in the register.

The registrations during 1914 were as follows:—

New Motor Boats	6
New Ordinary Boats	6
Re-registration of Ordinary Boats	8
Total	20

Of the eight re-registrations one was necessitated by structural alteration (addition of fore-cabin), four were due to change of ownership, and three to change of name of boat.

Six of the eight boats were previously on the Birmingham register, and are included among the registrations cancelled during the year, while the remaining two were previously registered by other authorities—one by Gloucester and one by Banbury—and these authorities were duly notified of the re-registrations by Birmingham.

It is interesting to note that the boats which have been re-named were formerly the "Germany," "Austria," and "Turkey," but on account of the war the steersmen refused to work the boats under these names, and it was therefore necessary for the owners to re-register them under new names.

I am, Gentlemen,  
Your obedient servant,

T. W. BEAZELEY, M.B., D.P.H.,  
*Assistant Medical Officer of Health.*

#### MILKSHOPS AND DAIRIES.

The object of this inspection is to ensure that only premises suitable for the purpose shall be used and that reasonable precautions shall be taken to ensure that cleanliness shall be observed in handling the milk.

The two Inspectors employed on this duty are required to see that the Regulations with respect to Dairies, Cowsheds and Milkshops made by the Council on February 5th, 1901, are carried out, also certain orders made under the Contagious Diseases (Animals) Acts, Section 4 of the Infectious Disease Prevention Acts, 1890, and Section 87 of the Birmingham Corporation Act, 1903.

The work of these Inspectors has been well and conscientiously done during the year. The table at the end of this Section indicates its extent, and to some degree its character.

A very much better milk supply, however, is required than exists at present. Incomparably greater harm is done by dirty milk than by milk which has been adulterated with water or abstraction of fat. The present condition of things is largely due to the fact that the general public do not realise that clean milk could be supplied in place of much that is now served.

So many germs get into milk in the cowshed or in transit to the City, or in distribution in Birmingham, that a very large part of the milk served contains from 1 to 5 millions of germs per small teaspoonful.

Such milk soon turns sour, and often causes illness in babies. It has lost most of its pleasant taste, and is an article which is expensive, because there is waste owing to some of it becoming unsaleable.

The large milk vendor provides himself with a sterilizing or pasteurizing plant to prevent loss, but in using such an apparatus he is by killing most of the germs making it possible to sell damaged milk for a longer time than otherwise. A good many gallons of milk are kept in cold storage for several days at a time in order to make up the larger supply on Sundays. All of this milk, contaminated by living germs in enormous quantities, is looked upon at present by the general public as normal in its keeping qualities, and is tolerated by reason of their ignorance.

The first official action which has occurred in the direction of limiting this sale of what properly may be called unwholesome milk was taken during 1914, in the passing of the Milk and Dairies Act of 1914. Section 11 of this Act gives power to the Local Government Board to make regulations for the following among other purposes:—

- (a) The prevention of damage to health from infected, contaminated or dirty milk.
- (b) The cooling, conveyance, and distribution of milk.
- (c) The labelling, marking, or identification of milk vessels.
- (d) The use of the designation "Certified Milk," and the conditions necessary for such certification.

The interests involved in agriculture have always been so strong as to effectually prevent any real progress in the direction of better production of milk, with a result that most of the milk sold in this country is contaminated by cow dung and other dust in the cowsheds. This milk is seldom properly cooled, and frequently is delayed in transit, and distributed and stored under conditions which are far from good. The result is that children are damaged; others do not drink enough milk, because it has lost its pleasantness, or because it does not keep.

Very great value, therefore, will attach to any regulations which will make it possible to obtain reasonably clean milk everywhere, and specially clean milk. "Certified Milk," on payment of an extra price.

#### MILKSHOPS AND DAIRIES.

Dairies on the register ... ..	10
Milkshops on the register ... ..	4,141
Purveyors on the register ... ..	487
Dairies registered during the year ... ..	0
Milkshops registered ... ..	738
Purveyors registered ... ..	54
Dairy certificates cancelled ... ..	0
Milkshops " " ... ..	614
Purveyors' " " ... ..	73
Visits to dairies ... ..	31
Visits to milk shops and milk stores... ..	5,924
Visits to purveyors ... ..	585
Milk vessels examined ... ..	10,215
Dirty vessels found ... ..	3
Milkshops whitewashed ... ..	187
Sanitary defects found ... ..	141
Other contraventions ... ..	10
Dirty churns found at railway stations ... ..	0
Cases of infectious disease reported at milkshops ... ..	138

#### INSPECTION OF MEAT, FISH, FRUIT, ETC.

During 1914 the number of private slaughterhouses decreased from 181 to 179.

Eight Inspectors are employed in the work of inspecting slaughterhouses, markets and shops. They paid 12,384 visits to slaughterhouses, in addition to the systematic visits paid to markets and shops.

The amount of food seized or surrendered was as follows:—

##### *Bad Meat.*

Voluntarily surrendered ... ..	3,926 lots.
Seized by Inspectors ... ..	3 "
Weight destroyed ... ..	313 tons.
Persons prosecuted ... ..	2
Penalties inflicted ... ..	£15

##### *Bad Fish, Poultry, etc.*

Voluntarily surrendered ... ..	1,536 lots.
Seized ... ..	2 "
Weight destroyed ... ..	165 tons.

##### *Bad Fruit, etc.*

Weight destroyed ... ..	37 tons.
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## PUBLIC HEALTH (MILK AND CREAM) REGULATIONS.

Report on samples taken under the Public Health (Milk and Cream) Regulations, 1912, during the year ending December 31st, 1914.

The total number of samples taken during the year was 45.

1. *Milk and Cream not sold as Preserved Cream.*

	(a) No. of Samples examined for the presence of a Preservative.	(b) No. in which a Preservative was reported to be present.
Milk ... ..	—	—
Cream ... ..	21	16

In the following table particulars are given relating to the 16 samples of cream not sold as preserved cream, in which preservatives were reported to be present.

Number.	Results of Analysis.		Remarks.
	Milk Fat.	Boric Acid.	
C/4590	45.5%	0.3%	No declaratory label affixed to receptacle. Vendor cautioned by letter.
C/4644	58%	0.1%	Receptacle marked "Thick Rich Cream." No declaratory label affixed. Vendor cautioned by letter.
B/3830	49%	0.3%	No declaratory label affixed to receptacle. Vendor cautioned by letter.
B/3832	41.5%	0.4%	No declaratory label affixed to receptacle. Vendor cautioned by letter.
B/3862	37.5%	0.3%	No declaratory label affixed to receptacle. Vendor cautioned by letter.
B/3912	42%	0.5%	No declaratory label affixed to receptacle. Vendor cautioned by letter.
B/3997	33.5%	0.6%	No declaratory label affixed to receptacle. Vendor interviewed and cautioned.
B/4089	61.5%	0.3%	No declaratory label affixed to receptacle. Vendor cautioned by letter.
B/4165	49.5%	0.3%	No declaratory label affixed to receptacle. Vendor cautioned by letter.
B/4166	35%	0.4%	No declaratory label affixed to receptacle. Vendor cautioned by letter.
C/5096	49%	0.4%	No declaratory label affixed to receptacle. Vendor cautioned by letter.
C/5170	Over 35%	0.5%	No declaratory label affixed to receptacle. Vendor cautioned by letter.
C/5171	Over 35%	0.5%	No declaratory label affixed to receptacle. Vendor cautioned by letter.
B/4327	Over 35%	0.16%	No declaratory label affixed to receptacle. Vendor cautioned by letter.
B/4561	Over 35%	0.4%	No declaratory label affixed to receptacle. Vendor cautioned by letter.
B/4562	Over 35%	1.0%	No declaratory label affixed to receptacle. Vendor cautioned by letter.

2. *Cream sold as Preserved Cream.*

(a) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservatives were correct.

(1) Correct statements made	...	...	...	...	...	...	21
(2) Statements incorrect	...	...	...	...	...	...	3
Total	...	...	...	...	...	...	24

(b) Determinations made of milk fat in cream sold as preserved cream.

(1) Above 35 per cent.	...	...	...	...	...	...	24
(2) Below 35 per cent.	...	...	...	...	...	...	—
Total	...	...	...	...	...	...	24

(c) Instances where (apart from analysis) the requirements as to labelling or declaration of preserved cream in Article V. (1) and the proviso in Article V. (2) of the regulations have not been observed.

No case was brought to notice of any infringement of Article V. (1) or the proviso in Article V. (2) of the regulations.

(d) In the following table, particulars are given relating to the three samples of cream sold as preserved cream in regard to which incorrect statements were made on the declaratory labels and also instances where the requirements as to labelling of preserved cream in accordance with Article V. (2) were not strictly complied with.

Number.	Results of Analysis.			Remarks.
	Milk Fat.		Boric Acid.	
B/3996	54.5%	...	0.6%	The amount of boric acid present was 0.1% in excess of the stated proportion. In addition, the printing on the declaratory label was not of standard size. Vendor cautioned by letter.
B/3998	53.5%	...	—	No boric acid was found to be present, although a label as follows was affixed to receptacle: "Preserved cream," containing boric acid not exceeding 0.5%.
C/5394	67%	...	0.6%	The amount of boric acid present was 0.1% in excess of the stated proportion. In addition, the lid of the receptacle was incorrectly labelled "Clotted Cream." Vendor cautioned by letter.
B/3696	42%	...	0.2%	The printing on the declaratory label was not of standard size, and the word "preserved" was in smaller type than the word "cream." Vendor cautioned by letter.
B/3697	52%	...	0.4%	The printing on the declaratory label was not of standard size. Vendor cautioned by letter.
B/3698	49%	...	0.3%	In this case a notice was exhibited in the shop to the effect that all cream sold in the establishment was preserved cream containing boric acid not exceeding 0.5%, but no declaratory label was affixed to the receptacle. Vendor cautioned by letter.
C/4589	49%	...	0.4%	The printing on the declaratory label was not of standard size, and the lid of the receptacle was marked "Pure sweet thick cream." Both vendor and producers were cautioned by letter.
B/3798	51%	...	0.43%	Declaratory label of standard size affixed, but receptacle marked "Thick rich cream." Vendor cautioned by letter.
B/3831	51.5%	...	0.4%	The printing on the declaratory label was not of standard size, and the receptacle was marked "Thick rich cream." Vendor cautioned by letter.
B/3833	45.5%	...	0.5%	The printing on the declaratory label was not of standard size. Vendor cautioned by letter.
C/5172	Over 35%	...	0.4%	The printing on the declaratory label was not of standard size. Vendor cautioned by letter.

### 3. Thickening Substances.

There was no evidence of the addition of any thickening substance either to cream or preserved cream. The following is a complete list of the samples of cream and preserved cream above referred to, and the percentage of preservative found to be present as compared with that indicated in the statutory label (where affixed) in respect of each sample is also set out.

Number.	Article.	Percentage of Boric Acid indicated in Statutory label.			Percentage of Boric Acid found on analysis.		
B/3696	Preserved Cream	...	...	0.25%	...	...	0.2%
B/3697	Preserved Cream	...	...	0.5%	...	...	0.4%
B/3698	Preserved Cream	...	...	0.5%	...	...	0.3%
C/4589	Preserved Cream	...	...	0.5%	...	...	0.4%
C/4590	Cream	...	...	No label	...	...	0.3%
B/3798	Preserved Cream	...	...	0.5%	...	...	0.43%
B/3815	Preserved Cream	...	...	0.5%	...	...	0.4%
B/3816	Preserved Cream	...	...	0.5%	...	...	0.5%
C/4644	Cream	...	...	No label	...	...	0.1%
B/3830	Cream	...	...	No label	...	...	0.3%
B/3831	Preserved Cream	...	...	0.5%	...	...	0.4%
B/3832	Cream	...	...	No label	...	...	0.4%
B/3833	Preserved Cream	...	...	0.5%	...	...	0.5%
B/3861	Cream	...	...	No label	...	...	Nil
B/3862	Cream	...	...	No label	...	...	0.3%
B/3863	Cream	...	...	No label	...	...	Nil.
B/3912	Cream	...	...	No label	...	...	0.5%
B/3994	Preserved Cream	...	...	0.5%	...	...	0.4%
B/3995	Preserved Cream	...	...	0.5%	...	...	0.5%
B/3996	Preserved Cream	...	...	0.5%	...	...	0.6%
B/3997	Cream	...	...	No label	...	...	0.6%

Number.	Article.	Percentage of Boric Acid indicated on Statutory label.	Percentage of Boric Acid found on analysis.
B/3998	Preserved Cream ...	0.5%	Nil.
B/4089	Cream ...	No label	0.3%
B/4012	Preserved Cream ...	0.5%	0.4%
B/4165	Cream ...	No label	0.3%
B/4166	Cream ...	No label	0.4%
B/4167	Preserved Cream ...	0.5%	0.3%
B/4168	Preserved Cream ...	0.5%	0.4%
B/4232	Cream ...	No label	Nil.
C/5094	Preserved Cream ...	0.5%	Under 0.5%
C/5095	Cream ...	No label	Nil.
C/5096	Cream ...	No label	0.4%
C/5170	Cream ...	No label	0.5%
C/5171	Cream ...	No label	0.5%
C/5172	Preserved Cream ...	0.5%	0.4%
B/4327	Cream ...	No label	0.16%
B/4480	Preserved Cream ...	0.5%	0.5%
C/5299	Preserved Cream ...	0.5%	Under 0.5%
B/4548	Preserved Cream ...	0.5%	Under 0.5%
B/4561	Cream ...	No label	0.4%
B/4562	Cream ...	No label	1.0%
B/4563	Preserved Cream ...	0.5%	Under 0.5%
C/5415	Preserved Cream ...	0.5%	0.6%
C/5394	Clotted Cream ...	No label	Nil.
B/4223	Preserved Cream ...	0.5%	0.5%

## SHOPS ACT, 1912.

(REPORT BY DR. BEAZELEY, SENIOR ASSISTANT MEDICAL OFFICER).

The administration of this Act has been carried out during 1914 on lines similar to those described in the report for the previous year. The work of inspection has been performed by four whole-time inspectors, and the total number of visits paid to shops during the year was 42,838, as compared with 36,199 during 1913.

In the routine inspection of shops any infractions of the regulations which are noticed are usually verbally reported by the inspector to the shopkeeper in the first instance, and if on a subsequent visit the complaint has not been remedied, an official printed notice is then sent.

Such notices of infringements of the Act were sent in 667 cases, as against 384 in the previous year, and it will be seen, on referring to the list below, that the majority of the complaints referred to the non-exhibition of the various notices required.

The tabulated list of infringements to which notice was thus drawn is as follows :

Not specifying early closing day	118
Not exhibiting exempted trades notices	206
Not exhibiting assistants' weekly half-holiday notice	179
Not properly filling up ditto	4
Not exhibiting young persons' notice...	47
Not closing shop at 1 p.m. on half-day	47
Not closing for sale of non-exempted goods	48
Employing assistants after 1.30 p.m.	12
Not allowing proper meal times	5
Not providing seats for female assistants	1
Total	667

In most cases the complaints were, more or less, promptly remedied, but in some instances the infringements continued to exist, and it was considered necessary to take legal proceedings in 28 cases. The corresponding number of prosecutions for 1913 was 42.

The 28 summonses issued had relation to 25 shops; 22 shopkeepers were prosecuted for one offence each, and three for two offences each.

The results of these prosecutions and the corresponding results for 1913 were as follows:—

OFFENCE.	1914.			1913.				
	No. of Summonses issued.	Convictions.	Fined Costs only.	Summons.	Con- victions.	Fined Costs only.	Cases dis- missed.	Cases with- drawn.
Not closing on the half-day ... ..	18	18	—	35	32	2	1	—
Not exhibiting assistants' half-holiday notice ...	6	6	—	4	3	—	1	—
Not allowing proper meal times ... ..	2	2	—	—	—	—	—	—
Employing assistants after 1.30 p.m. on the half-holiday ... ..	2	1	1	—	—	—	—	—
Not exhibiting early closing notice ... ..	—	—	—	2	1	—	—	1
Obstruction of Inspector	—	—	—	1	—	1	—	—

The total amount of fines inflicted for these offences was £11 18s. 6d., and the costs were £9 16s. 0d. The following is a detailed description of these penalties:—

For not closing on the half-day	1 defendant	was fined	40/-	and costs.
"	3	"	10/-	each and costs.
"	10	"	5/-	"
"	3	"	2/6	"
"	1	"	1/-	and costs.
For not exhibiting assistants' half-holiday notice ...	3	"	20/-	each and costs.
"	2	"	10/-	"
"	1	"	5/-	and costs.
For not allowing proper meal times ... ..	1	"	10/-	and costs (in each of two charges).
For employing assistants after 1.30 p.m. ... ..	1	"	5/-	and costs.
"	1	"		costs only.

It will be noticed that proceedings for the enforcement of the provisions of the Act regarding the employment of the assistants on the half-holiday and the allowance of proper meal times are comparatively few. This is due, as emphasised in the report of last year, to the difficulty in obtaining sufficient evidence to undertake proceedings in these cases, as the assistants concerned, even when sufficient evidence is known to justify action being taken, are usually unwilling to give evidence on their own behalf against their employers, for fear of the consequences to themselves.

Numerous complaints are received by the department, mostly anonymously; these are strictly investigated, and in many instances, it is believed, they are remedied. In other cases, this appears to be all that can be done to benefit the assistants under existing circumstances, as they are usually not prepared to sacrifice their positions by making complaints, or giving evidence, against their employers.

#### CLOSING AND EXEMPTION ORDERS.

No alteration has been made during the year to the closing and exemption orders which were in force in the City at the end of 1913.

Under these Orders grocers' shops and photographic studios, numbering approximately 200 and 60 respectively are exempted from the necessity of closing for the

weekly half-holiday, while pawnbrokers and hay and corn dealers' shops (approximately 375 and 175 respectively) are obliged to close on a specified half-day, for which purpose Wednesday has been chosen.

During the year several applications were made to the City Council for Closing Orders and Half-holiday Orders (Closing Orders determine the time of closing on week-days other than the day of the half-holiday). (1) The Harborne traders having applied for a Closing Order and Half-holiday Order, a list of tradesmen was prepared, and votes were taken, but as the requisite majority was not obtained, no Order was made. (2) The Hairdressers of the City made application for a Half-holiday Order, but not sufficient support was forthcoming to warrant the Council taking action, and (3) an application was received from the Handsworth Traders' Association for a Closing Order and Half-holiday Order; but here again the application was not sufficiently supported to warrant any action being taken by the Council.

#### SHOPS ACT, 1913.

This Act is an amending Act to the Shops Act, 1912, and can only be applied to premises used for the sale of refreshments. Its provisions chiefly relate to the "Conditions of Employment," and it is thus really an amendment of Section 1 of the 1912 Act.

The 1913 Act provides for the number of hours of employment, hours of meal-times and holidays of assistants, and if adopted by any shopkeeper, its provisions must remain in force for a period of 12 months, and can only be withdrawn at the expiration of the first or any succeeding year after its adoption.

It has not been favourably received in Birmingham, and only one restaurant business has elected to work under the 1913 Act. This is probably due mainly to the conditions of employment being less favourable to the employer, and possibly in some degree also to the fact that all persons wholly or mainly employed in any capacity at the premises in connection with the business therein carried on come within the definition of shop assistants for the purposes of the Act, and are, therefore, subject to the regulations regarding shop assistants.

#### FACTORIES AND WORKSHOPS.

Two male and two female inspectors are engaged the whole of their time in carrying out that part of the inspection of factories which has been referred to the local authority, and also the inspection of workshops and home-workers' premises. The details of this work are shown below:—

##### I. INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

(Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances).

PREMISES. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
Factories (including Factory Laundries)	1154	104	—
Workshops (including Workshop Laundries) ... ..	8445	189	—
Workplaces (other than Outworkers' premises included in Part 3 of this Report) ... ..	422	2	—
Total ... ..	10021	295	—
Revisits paid ... ..	2937	—	—

## II.—DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

PARTICULARS. (1)	Number of Defects.			Number of Prosecutions. (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
Nuisances under the Public Health Acts :—				
Want of cleanliness ... ..	872	866	—	—
Want of ventilation ... ..	23	22	—	—
Overcrowding ... ..	8	8	—	—
Want of drainage of floors ... ..	6	6	—	—
Other nuisances ... ..	487	480	—	—
Sanitary accommodation—				
Insufficient ... ..	90	88	—	—
Unsuitable or defective ... ..	1211	1193	—	—
Not separate for sexes ... ..	61	60	—	—
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouse (s. 101) ... ..	—	—	—	—
Breach of special sanitary requirements for bakehouses (ss. 97 to 100) ... ..	—	—	—	—
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report) ... ..	—	—	—	—
Total ... ..	2758	2723	—	—

## III.—HOME WORK.—See page 115.

## IV.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year ... .. 5,214

## V.—OTHER MATTERS.

	Number.
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (s. 133) ...	21
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5) ... ..	377
Other ... ..	—
Reports (of action taken) sent to H.M. Inspector ... ..	318
Underground bakehouses (s. 101) :—	
Certificates granted during the year ... ..	—
In use at the end of the year ... ..	10

## BLACK SMOKE NUISANCE.

The table on page 116 shows the total number of chimneys attached to various kinds of works on which the Smoke Inspectors keep observation from time to time. In regard to each a ledger account is kept so that it is possible at any time to give the record of any one of them.



## NO. OF CHIMNEYS EMITTING BLACK SMOKE OR OTHER NOXIOUS FUMES.

DESCRIPTION OF TRADES.	Black Smoke.					Other Noxious Fumes.			Totals.
	Boilers, all types.	Furnaces, all types.	Combined Boilers and Furnaces.	Baking Ovens.	Not Known.	Strip and Brass Casting.	Refiners, Solder and Spelter Manufacturers.	Various.	
Tube and Metal Rolling Mills ... ..	37	123	49	—	14	118	—	20	361
Brassfounders, etc. ... ..	14	21	6	—	10	223	—	—	274
Nail, Nut and Bolt, etc., Manufacturers ... ..	14	7	1	—	3	—	—	—	25
Silversmiths, Electro-platers	22	8	1	—	5	1	—	—	37
Bedstead, etc., Manufacturers	3	15	1	—	7	—	—	—	26
Mineral Water „ ... ..	10	—	—	—	2	—	—	—	12
Engineers ... ..	37	17	3	—	5	1	—	4	67
Brewers ... ..	28	5	3	—	—	—	—	—	36
Bakers ... ..	—	—	—	385	—	—	—	—	385
Butchers (Pork) ... ..	29	—	—	—	—	—	—	—	29
Laundries ... ..	26	—	—	—	—	—	—	—	26
Refiners, Metal Brokers, etc.	1	5	—	—	4	—	40	2	52
Pen Manufacturers ... ..	2	6	6	—	1	—	—	—	15
Paint, Varnish, etc., Manufacturers ... ..	6	—	1	—	2	—	—	12	21
Chemical Works ... ..	9	13	2	—	—	—	—	5	29
Glass Works ... ..	6	19	—	—	—	—	—	—	25
Saw Mills and Timber Works	16	—	—	—	—	—	—	—	16
Iron Founders ... ..	5	27	1	—	4	—	—	2	39
Gun, Cycle Fittings, etc. ...	17	14	3	—	—	—	—	2	36
Edge Tool Manufacturers ...	10	2	2	—	—	—	—	101	115
Brickworks ... ..	9	24	4	—	4	—	—	1	42
Railway Carriage and Wagon Works ... ..	3	14	—	—	—	—	—	9	26
Hotels, Electric Supply and Public Institutions ...	70	1	—	—	9	—	—	6	86
Miscellaneous ... ..	137	25	10	—	26	—	—	1	199
Totals ... ..	511	346	93	385	96	343	40	165	1,979

In the next table is shown for each year the total number of observations made and the general results of these. The observations are of an hour's duration.

## BLACK SMOKE.

Year.	Number of Observations.	Average number of minutes of black smoke per observation.	Offences reported	Cautionary letters sent.	Police Court proceedings.	Total amount of fines.			Total amount of costs.			Average fine.		
						£	s.	d.	£	s.	d.	£	s.	d.
1901 ...	15808	1.34	116	80	35	15	2	6	14	4	0	0	8	7
1902 ...	13445	1.26	139	89	50	33	15	0	19	8	6	0	13	6
1903 ...	16705	1.27	151	71	80	49	7	6	36	15	6	0	13	2
1904 ...	13186	1.39	231	117	98	77	10	0	37	17	6	0	15	10
1905 ...	10034	1.95	250	128	109	69	10	0	41	0	0	0	16	2
1906 ...	8229	2.27	251	116	115	82	15	0	41	19	6	0	17	1
1907 ...	7934	2.29	275	119	116	89	0	0	41	0	8	0	18	11
1908 ...	7125	2.47	243	108	111	66	12	6	38	12	6	0	14	6
1909 ...	9216	2.24	247	80	94	67	15	0	33	6	0	0	17	7
1910 ...	9945	1.99	218	79	75	45	2	6	27	0	0	0	13	11
1911 ...	10686	2.18	258	81	109	117	5	0	37	3	6	1	1	9
1912 ...	10102	2.44	300	152	108	98	10	0	36	19	0	0	18	3
1913 ...	15637	1.31	247	98	90	83	0	0	32	2	0	0	18	9
1914 ..	10533	1.62	196	88	92	97	5	0	33	14	6	1	1	1



## HEALTH VISITORS' WORK.

(BY BLANCHE GARDINER, B.A., SUPERINTENDENT OF HEALTH VISITORS.)

By this is understood the work done by the general Health Visitors, for since the appointment of the first four Health Visitors in Birmingham in 1899 there has been a gradual evolution of the term; and so now it is necessary to discriminate between those Health Visitors who do *general* Health Visiting and those Health Visitors who specialize in Infant or Tuberculosis work.

The work of the 19 general Health Visitors during the year 1914 was on similar lines to that described in the Annual Reports for 1911, 1912, and 1913; and although it is always more or less accumulative, yet certain branches of it may be temporarily suspended, to be replaced for a time by some other health work or enquiry that for the moment is of paramount importance.

Epidemics of infectious diseases (*e.g.*, Measles, Whooping Cough, Mumps, etc.) will cause an extra number of visits in particular districts for certain Health Visitors, but others who are working under normal conditions willingly proffer help, the object that each should have in view being the common welfare and satisfactory conditions of the whole City, as well as that of her own special district.

The following table gives the number of visits paid for various reasons. It differs from that of previous years in a few respects, viz., Ophthalmia Neonatorum cases are noted for the last three quarters; Impetigo and "Blight" are classified separately during the last quarter; and also for that period a separate classification has been made of the number of visits paid by the Health Visitors to the Elementary Schools, instead of these being included, as before, under "Other Visits."

## HEALTH VISITORS' WORK.

	QUARTERS.				TOTAL.
	First.	Second.	Third.	Fourth.	
PRIMARY VISITS :—					
Systematic ... ..	119	49	141	45	354
Births ... ..	2,005	2,413	3,292	2,071	9,781
Ophthalmia Neonatorum ... ..	—	61	63	70	194
Diarrhœa Deaths ... ..	33	37	211	98	379
Measles ... ..	563	854	458	2,248	4,123
German Measles ... ..	6	11	6	28	51
Chicken Pox ... ..	569	793	382	836	2,580
Whooping Cough ... ..	2,231	746	93	115	3,185
Mumps ... ..	585	593	177	684	2,039
Vermin :—					
(a) Head ... ..	289	261	242	239	1,031
(b) Body ... ..	208	216	232	239	895
(c) Head and Body ... ..	44	56	58	44	202
Ringworm ... ..	18	6	6	19	49
Scabies ... ..	27	25	7	22	81
Impetigo ... ..	—	—	—	150	150
Blight ... ..	—	—	—	108	108
Unclassified School Cases ... ..	2,063	1,340	986	1,701	6,090
Schools ... ..	—	—	—	530	530
Reported Overcrowding ... ..	—	—	—	3	3
Other Visits (not included in above) ...	1,353	1,356	5,986	1,281	9,976
Total of Primary Visits ...	10,113	8,817	12,340	10,531	41,801
Revisits ... ..	2,528	2,372	3,724	2,421	11,045
Useless Visits ( <i>i.e.</i> , out, removed, etc.)	2,123	1,897	1,888	1,849	7,757
GRAND TOTAL ... ..	14,764	13,086	17,952	14,801	60,603

## INFANT VISITORS' WORK.

Primary Visits.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	TOTAL.
Births ... ..	1,529	1,502	1,398	1,262	5,691
Ophthalmia Neonatorum ... ..	—	39	35	32	106
Diarrhœa Deaths ... ..	14	13	118	46	191
Total ... ..	1,543	1,554	1,551	1,340	5,988
Re-visits ... ..	5,222	4,867	4,695	4,218	19,002
Grand Total ... ..	6,765	6,421	6,246	5,558	24,990

## INFANTS.

In addition to the large amount of work done by the Infant (Health) Visitors at the various Municipal Consultations, and in the surrounding areas (described in detail elsewhere, page 18) the general Health Visitors have paid 9,781 primary visits to Infants in the remaining parts of the City.

In connection with deaths from Diarrhœa (under 2 years) 379 homes were visited by the general Health Visitors, and 191 homes by the Infant Visitors, and the necessary investigations were made, and inquiry forms filled in.

Cases of Ophthalmia Neonatorum previous to April, 1914, were visited primarily by the Inspector of Midwives, and subsequently by the Health Visitors; but since the notification of this disease by doctors and midwives has been enforced, the Health Visitors alone have visited every case of Ophthalmia Neonatorum, to see that the baby is under medical treatment (either that of private doctor or hospital), and that the mother or person in charge is carrying out such treatment properly.

Swabs of pus from the eye were taken in certain cases for further bacteriological examination.

The Health Visitors had previously received special instruction from an Assistant Medical Officer of Health as to the necessary precautions to be taken against infecting themselves, and they take great interest in ophthalmia cases, and spare no trouble in doing everything possible to help to preserve the child's eyesight.

Instruction to fathers by medical men, as well as to mothers, as to the cause of this disease is felt to be an urgent need.

## SCHOOL CHILDREN.

The cases reported from the schools in 1914, to be dealt with by the Health Visitors, numbered approximately 20,580.

During the year 4,575 cases of vermin were reported by the Head Teachers, etc., and were visited both in the homes and schools as hitherto.

In many instances procedure was taken under the Children Act (Sec. 122), as shown by the following figures:—

1,023 warning notices were sent to the responsible parent, or guardian.

318 children were, on re-inspection, found free from vermin.

560 children were compulsorily cleansed at Floodgate Street Cleansing Station, and the parent or guardian notified of the consequent liability to prosecution.

143 cases of compulsory cleansing were postponed until 1915 for various reasons, as illness, removal, etc.

34 prosecutions were taken with respect to 50 children.

The number of prosecutions (under Sec. 122 of Children Act) was somewhat less than last year, as during the fourth quarter of 1914 there was a probability

that the Education Committee would be prosecuting certain parents for the non-attendance of their children after their exclusion from school for vermin.

The Health Visitors also examined about 1,800 school children (in connection with the Country Holiday Societies) at two large inspections in July; and with very few exceptions these were pronounced clean, and free from vermin and infection. Unfortunately, however, on account of the outbreak of war, only half of this number were able to travel by rail, and so many had to lose their much-looked-for holiday.

#### MISCELLANEOUS.

During the year the whole staff have endeavoured in various ways to keep in touch with and up-to-date in matters dealing with health; and have both given and received information—a mutual benefit to donors and recipients.

Thus different members from the Health Visitors' Department gave evidence in connection with the Birmingham Housing Enquiry Committee; also compiled and read a paper at the Royal Sanitary Institute Congress, Blackpool, on "The Varied Nature of the Work of Women Public Health Officials"; also acted as representatives at the London meeting of the Women Sanitary Inspectors' Association; and had evening meetings of the Birmingham and Midland Centre, with lectures by Dr. Beatrice Webb, Miss Lewis (on the work of the Labour Exchange), and Mrs. Deane Streetfeild, of London.

At the Trained Nurses' Conference and Exhibition, held in Birmingham in June, one room adjoining the main Central Hall was allotted to the work and exhibits of the Infant and General Health Visitors, and one room to those of the Tuberculosis Health Visitors; and these (Nurses) acted as demonstrators, and did a large amount of explanatory and propagandist work.

Health Week, arranged for November, 1914, was postponed on account of the war.

The outbreak of war in August also caused a temporary interruption and alteration of the ordinary routine work of the Health Visitors.

The general upstir, here as elsewhere, was necessarily accentuated in the homes, where husbands and sons were called to the front, and the whole staff of Health Visitors did useful work in ascertaining conditions as to lack of funds, etc., before the Citizens' Committees were fully organised, and before War Office payments became regular.

Later, in the course of their ordinary visits, they were able to get detailed information as to the number of bread-winners called away, and the number of men and women out of work, on short time, etc., and to supply this information daily to the Intelligence Officer to the Birmingham Citizens' Executive Committee, who in his report as Correspondent to the Local Government Board mentioned the value of these returns, which (for November) he classed as the best available evidence.

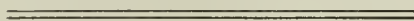


TABLE I.

*Vital Statistics of Whole District during 1914 and previous Years.*

Year.	Population estimated to middle of each year.	BIRTHS.			Total Deaths Registered in the District.		Transferable Deaths.		NETT DEATHS BELONGING TO THE DISTRICT.			
		Uncorrected Number.	Nett.		Number.	Rate.	Non-residents registered in the District.	Residents not registered in the District.	Under 1 year of Age.		At all Ages.	
			Number.	Rate.					Number.	Rate per 1,000 Nett Births.		Number.
1901	760,989	?	23,866	31.4	14,089	18.6	?	?	4,205	176	13,290	17.5
1902	768,757	?	24,246	31.2	12,973	16.7	?	?	3,503	144	12,650	16.3
1903	776,604	?	23,956	30.9	12,433	16.0	?	?	3,525	147	12,224	15.8
1904	784,532	?	24,260	31.0	14,047	17.9	?	?	4,346	179	13,882	17.7
1905	792,540	?	22,939	29.0	12,132	15.3	?	?	3,224	141	11,948	15.1
1906	800,631	?	23,484	29.4	12,983	16.2	?	?	3,682	157	12,737	15.9
1907	808,803	?	23,233	28.8	12,567	15.6	?	?	3,084	133	12,356	15.3
1908	817,060	?	23,986	29.1	12,782	15.5	?	?	3,124	130	12,596	15.3
1909	825,400	?	22,555	27.4	12,573	15.3	?	?	2,727	121	12,398	15.1
1910	833,826	?	22,288	26.8	11,200	13.5	?	?	2,570	115	11,001	13.2
1911	842,337	?	21,975	26.1	12,760	15.2	?	?	3,298	150	12,623	15.0
1912	850,947	22,186	22,168	26.1	12,131	14.3	338	212	2,470	111	12,005	14.1
1913	859,644	23,858	23,812	27.3	13,116	15.0	362	208	3,070	129	12,962	14.9
Averages for years 1901-1913	809,390	?	23,290	28.8	12,753	15.8	?	?	3,294	141	12,513	15.5
1914	882,534	23,268	23,207	26.4	13,115	14.9	346	257	2,839	122	13,026	14.8

Rates in columns 5, 7, and 13 calculated per 1,000 of estimated population.

Total population at all ages at Census of 1911, 840,202.

Area of District in acres, 43,537.

Number of inhabited buildings, 177,030.

Average Number of Persons per house, 4.7.



TABLE II.—continued.

CAUSE OF DEATH.	AGES.															Males	Fe- males	Per- sons.	
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-				85-
Exophthalmic Goitre ...	—	—	—	—	—	—	—	1	1	1	—	1	—	2	—	—	—	6	6
Addison's Disease ...	—	—	—	—	—	—	—	—	—	—	2	1	—	—	—	—	—	3	3
Leucocythæmia, Lymphad'oma	—	1	2	—	—	3	1	—	2	1	2	4	4	2	—	—	11	11	22
Anæmia, Chlorosis ...	1	—	—	—	—	1	—	2	1	2	4	7	8	3	1	—	13	17	30
Other General Diseases ...	5	—	—	—	—	—	—	1	1	—	1	—	—	—	—	—	5	3	8
Alcoholism ...	—	—	—	—	—	—	—	—	—	1	5	4	3	2	—	—	7	8	15
Chronic Lead Poisoning ...	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	2	—	2
Other Poisonings (Occupational)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ditto do. (not occupational)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
II.—NERVOUS SYSTEM.																			
Encephalitis ...	—	—	—	—	1	—	—	1	—	1	4	—	—	1	—	—	4	4	8
Cerebro-Spinal Fever ...	2	—	1	—	—	1	2	1	—	—	—	—	—	—	—	—	5	2	7
Meningitis (other forms) ...	41	25	14	3	6	9	12	—	—	3	7	4	1	—	—	—	56	69	125
Locomotor Ataxy ...	—	—	—	—	—	—	—	—	—	2	4	8	7	—	—	—	18	3	21
Other Dis., Spinal Cord ...	—	—	1	—	—	—	—	—	1	4	7	6	14	12	3	1	29	20	49
Acute Poliomyelitis ...	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Cerebral Hæmorrhage, Apoplexy	—	—	—	—	—	—	—	—	2	8	27	87	126	154	98	17	239	280	519
Softening of Brain ...	—	—	—	—	—	—	1	—	—	1	—	—	2	3	2	—	5	4	9
Paralysis (no specified cause) ...	—	—	—	—	—	—	—	—	—	1	1	9	9	20	7	1	28	20	48
General Paralysis of Insane ...	—	—	—	—	—	—	—	—	—	4	22	21	7	2	—	—	49	7	56
Other Mental Alienation ...	—	—	—	—	—	—	—	—	—	—	3	1	2	2	—	—	4	4	8
Epilepsy ...	2	1	—	—	1	1	—	6	5	15	16	8	3	10	1	—	39	30	69
Convulsions (5 and over) ...	—	—	—	—	—	4	—	—	—	—	—	—	—	1	—	—	2	3	5
Convulsions (under 5) ...	137	25	4	2	—	—	—	—	—	—	—	—	—	—	—	—	80	88	168
Chorea ...	—	—	—	—	1	1	1	3	—	—	3	3	2	—	—	—	4	10	14
Hysteria, Neuralgia, Neuritis ...	—	—	—	—	—	—	—	—	—	2	7	9	6	—	—	—	6	18	24
Other Dis. of Nervous System...	—	—	—	—	1	4	1	2	—	5	4	5	3	5	1	—	17	14	31
Diseases of Eyes and Annexa...	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1
Mastoid Disease ...	2	—	—	—	—	2	1	1	1	1	—	—	1	—	—	—	6	3	9
Other Diseases of Ears ...	3	2	—	1	1	3	4	3	1	4	2	1	1	1	—	—	14	13	27
III.—CIRCULATORY SYSTEM.																			
Pericarditis ...	1	1	—	1	—	4	3	1	—	2	—	1	1	—	—	1	7	9	16
Acute Endocarditis ...	—	—	—	—	1	5	6	6	6	13	10	12	6	—	—	—	35	30	65
Valvular Disease ...	1	—	2	—	1	6	17	19	12	28	67	71	101	97	45	2	195	274	469
Fatty Degeneration of Heart ...	—	—	—	—	—	—	—	—	—	—	5	5	14	12	2	1	17	22	39
Other Organic Diseases of Heart	8	—	—	—	—	4	13	7	9	17	49	87	153	222	104	20	304	389	693
Angina Pectoris ...	—	—	—	—	—	—	—	—	—	—	—	5	9	5	—	—	9	10	19
Aneurysm ...	—	—	—	—	—	—	—	—	—	1	2	10	5	4	1	—	19	4	23
Arterio Sclerosis ...	—	—	—	—	—	—	—	—	—	—	3	8	22	41	29	7	63	47	110
Other Diseases of Arteries ...	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	2	—	2
Cer. Embolism, Thrombosis ...	—	—	—	—	—	—	—	—	1	—	6	7	11	25	21	1	33	39	72
Other Embolism and Throm. ...	—	—	—	—	—	—	—	—	—	—	—	4	—	1	2	—	4	3	7
Diseases of Veins ...	—	—	—	—	—	—	—	—	—	1	2	3	—	—	1	1	—	8	8
Status Lymphaticus ...	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Other Dis. of Lymphatic System	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	1	—	1
Other Dis. of Circulatory System	—	—	—	—	—	—	—	—	—	1	—	1	1	1	—	—	3	1	4
IV.—RESPIRATORY SYSTEM.																			
Diseases of Nasal Fossæ ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diseases of Larynx ...	4	6	2	3	2	1	—	—	—	1	—	—	1	1	—	—	13	8	21
Diseases of Thyroid Body ...	1	—	—	—	—	—	—	—	—	—	—	2	1	1	1	—	—	6	6
Bronchitis ...	193	55	10	9	1	8	2	2	5	12	35	84	174	279	196	44	528	581	1109
Broncho-pneumonia ...	196	157	40	21	8	9	2	—	1	3	9	9	20	22	15	3	267	248	515
Lobar Pneumonia ...	14	14	5	4	3	4	1	5	6	23	39	19	31	24	10	1	129	74	203
Pneumonia (type not stated)...	47	51	16	16	4	21	6	4	8	31	31	50	32	30	22	3	219	153	372
Pleurisy ...	2	4	4	1	1	2	—	—	4	4	5	4	4	3	3	—	24	17	41
Pul. Cong., Pul. Apoplexy ...	5	3	—	—	1	—	—	—	—	2	1	2	3	8	9	3	20	17	37
Gangrene of Lung ...	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	1









TABLE IV.  
Deaths under 1 year Registered in, or belonging to, each Ward during the Year ending January 2nd, 1915.

CAUSES OF DEATH.	Acock's Green.	All Saints.	Aston.	Balsall Heath.	Duddeston and Nechells.	Edgbaston.	Edngton (North).	Edngton (South).	Handsworth.	Harborne.	King's Norton.	Ladywood.	Lozells.	Market Hall.	Moseley and King's Heath.	Northfield.	Rotton Park.	St. Bartholomew's.	St. Martin's.	St. Mary's.	St. Paul's.	Saley.	Sandwell.	Selly Oak.	Small Heath.	Soho.	Sparbrook.	Sparkhill.	Washwood Heath.	Yardley.	Not Located.	City.					
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
Chicken Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
Measles	...	5	5	1	3	...	1	...	...	...	...	6	2	1	...	...	5	2	...	5	...	...	...	...	1	...	...	...	...	...	...	...	...				
Scarlet Fever	...	10	7	5	10	5	1	...	2	...	3	6	6	6	1	...	9	5	...	12	...	9	2	4	1	...	...	...	...	...	...	...	...	...			
Whooping Cough	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Diphtheria and Croup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Erysipelas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Tuberculous Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Abdominal Tuberculosis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Other Tuberculous Diseases	...	1	...	...	1	...	...	...	1	...	...	...	...	...	...	...	1	1	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Meningitis (not Tuberculous)	...	4	3	1	6	2	...	...	2	...	...	2	1	2	...	...	1	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Convulsions	...	6	9	6	18	1	...	...	4	...	...	3	4	...	...	...	6	11	10	4	6	5	1	3	4	...	...	...	...	...	...	...	...	...	...		
Laryngitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bronchitis	...	17	21	3	17	1	...	...	1	...	...	13	1	3	...	...	6	18	23	12	11	8	4	...	...	...	...	...	...	...	...	...	...	...	...	...	
Pneumonia (all forms)	...	13	20	9	18	5	...	...	7	...	...	15	8	5	...	...	12	24	24	30	17	4	2	...	...	...	...	...	...	...	...	...	...	...	...	...	
Diarrhoea	...	5	8	2	23	...	...	...	1	...	...	14	10	6	...	...	11	26	14	25	5	6	2	...	...	...	...	...	...	...	...	...	...	...	...	...	
Enteritis	...	6	31	7	56	2	...	...	3	...	...	10	11	13	...	...	19	24	26	45	25	4	2	...	...	...	...	...	...	...	...	...	...	...	...	...	
Gastritis	...	...	...	...	...	...	...	...	1	...	...	1	3	1	...	...	2	5	3	12	2	4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	
Syphilis	...	1	2	1	4	...	...	...	1	...	...	1	3	...	...	...	2	3	...	4	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Rickets	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Suffocation, Overlying	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Injury at Birth	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Atelectasis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Congenital Malformations	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Premature Birth	...	5	8	3	6	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Atrophy, Debility, and Marasmus	...	25	27	17	32	6	...	...	13	...	...	29	21	11	...	...	23	45	26	17	26	13	6	...	...	...	...	...	...	...	...	...	...	...	...	...	
Other causes	...	34	17	8	41	5	...	...	8	...	...	20	11	10	...	...	31	30	33	37	28	12	3	7	13	4	...	...	...	...	...	...	...	...	...	...	
ALL CAUSES	68	167	179	78	265	39	37	29	49	17	36	149	90	75	23	17	150	225	207	230	156	83	27	47	59	56	94	31	86	31	39	2839	...	...			



TABLE VI.  
*Cases of Infectious Disease notified during the Year 1914. Classified according to ages.*

DISEASE.	AGES.													Totals.			
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-		65-	75-	85-
Enteric Fever ...	...	...	...	...	...	4	6	9	12	21	10	4	1	...	...	...	67
Smallpox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever ...	60	173	362	485	552	2901	1229	442	201	237	105	15	1	1	...	...	6764
Diphtheria ...	12	55	91	126	123	644	280	99	63	82	36	10	2	...	...	...	1623
Erysipelas ...	27	8	9	4	9	36	41	57	40	114	159	176	114	68	16	5	883
Pulmonary Tuberculosis ...	5	9	8	14	22	298	290	262	399	836	610	367	155	39	3	...	3317
Tuberculous Meningitis ...	20	5	7	6	1	6	...	...	...	2	...	...	...	...	...	...	47
Tuberculosis of Peritoneum and Intestines ...	67	21	7	6	3	17	8	1	1	5	1	...	...	...	...	...	137
Tuberculosis of Spinal Column	...	...	1	...	...	4	2	2	2	6	1	...	...	...	...	...	18
Tuberculosis of Joints ...	...	1	...	...	3	9	3	1	5	7	3	1	...	...	...	...	33
Tuberculosis of Other Organs	3	8	4	7	12	102	55	17	14	8	9	3	2	...	...	...	244
Disseminated Tuberculosis ...	2	4	1	2	...	3	3	...	1	1	2	...	...	...	...	...	19
Cerebro-Spinal Fever ...	3	1	2	...	1	1	2	...	...	...	...	...	...	...	...	...	10
Poliomyelitis ...	3	5	1	...	3	3	1	...	...	...	...	...	...	...	...	...	16
Puerperal Fever ...	...	...	...	...	...	...	...	1	26	95	27	...	...	...	...	...	149
Ophthalmia Neonatorum ...	395	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	395
Total ...	597	290	493	650	729	4028	1920	891	764	1414	963	576	275	108	19	5	13722

TABLE VII.

Cases of Infectious Disease notified during the Year 1914. Classified according to Wards.

DISEASE.	Acock's Green.	All Saints.	Aston	Balsall Heath.	Judiston and Nechells.	Edgbaston	Edrington North.	Edrington South.	Handsworth.	Harborne.	Kings Norton.	Ladywood.	Tozells.	Market Hall	Moseley and King's Heath.	Northfield.	Rotton Park.	St. Bartholomews.	St. Martin's and Deritend	St. Mary's.	St. Paul's.	Satley.	Sandwell.	Selly Oak.	Small Heath.	Scho.	Sparkbrook.	Sparkhill.	Washwood Heath.	Vardley.	Not located.	City.
Enteric Fever ...	...	4	2	7	1	2	2	2	2	3	2	1	1	1	1	1	1	6	4	3	2	...	1	1	1	2	4	...	4	2	4	67
Smallpox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever ...	235	310	301	267	239	121	150	171	187	92	243	135	252	78	133	157	313	332	277	225	158	279	172	288	422	206	344	140	242	127	168	6764
Diphtheria ...	49	67	28	65	29	53	29	20	48	55	75	58	40	25	73	15	85	45	46	28	37	62	79	104	101	69	43	35	35	39	86	1623
Erysipelas ...	15	42	41	29	78	16	15	6	13	3	17	44	35	17	21	4	27	54	49	39	43	32	19	43	28	15	41	15	38	17	27	883
Pulmonary Tuberculosis	72	197	147	168	211	90	37	36	58	37	60	163	90	72	45	15	190	270	256	188	135	79	44	37	119	75	154	58	123	36	55	3317
Tubercular Meningitis	...	2	1	5	3	3	...	...	1	4	...	5	2	2	...	...	...	1	3	3	1	1	...	3	1	1	2	...	2	1	...	47
Tuberculosis of Peritoneum and Intestines	2	10	1	4	23	14	1	1	...	2	...	6	2	14	...	...	3	6	13	5	9	4	...	3	...	2	2	...	8	1	1	137
Tuberculosis of Spinal Column	...	2	2	...	...	...	...	...	...	2	2	2	...	...	...	...	...	...	2	3	2	1	...	...	...	1	1	...	1	...	...	18
Tuberculosis of Joints	1	2	2	2	3	2	...	1	...	...	1	4	3	...	...	...	3	...	...	3	...	2	...	...	1	...	...	...	1	...	...	33
Tuberculosis of Other Organs	3	15	10	10	5	13	3	1	5	7	2	18	9	7	7	...	22	12	20	8	8	7	3	5	9	6	14	4	5	1	244	
Disseminated Tuberculosis ...	1	1	1	...	...	1	...	1	1	...	1	3	1	...	...	...	...	...	...	2	...	...	1	2	2	1	...	...	1	...	...	19
Cerebro-Spinal Fever	...	...	2	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	2	...	...	1	...	...	10
Polomyelitis ...	...	2	1	...	...	1	...	...	...	1	1	1	1	...	...	...	...	1	...	...	...	1	1	...	...	1	...	...	2	2	...	16
Puerperal Fever	6	5	10	13	8	...	2	2	4	1	2	8	7	4	3	1	6	5	11	7	4	3	1	6	9	3	5	5	5	3	...	149
Ophthalmia Neonatorum	9	41	13	12	33	4	4	8	1	5	2	33	7	9	4	5	22	25	37	26	22	6	3	5	11	9	9	3	19	6	2	395
Total ...	394	700	562	582	633	320	243	248	322	212	406	481	450	229	287	198	671	757	718	540	422	477	324	497	705	391	621	260	487	239	346	13722

TABLE VIII.

*Temperature of the Air and Ground, Rainfall, Sunshine, and Wind, in each Month of the Year 1914.*  
*Observed at the Birmingham and Midland Institute Observatory, Edgbaston,*  
*by Mr. Alfred Cresswell.*

MONTH.	TEMPERATURE OF THE AIR.			TEMPERATURE OF THE GROUND.		HOURS OF SUNSHINE.		RAINFALL IN INCHES.		DAYS ON WHICH 0·01 INCH OR MORE OF RAIN FELL.	MILES OF WIND.				
	Highest in the shade.	Lowest in the shade.	Mean for the Month.	Maximum at 1 foot deep.	Maximum at 4 feet deep.	1914.	Above or below the average.*	1914.	Above or below the average.*		1914.	Above or below the average.*			
	1914.	1914.	1914.												
JAN.	53·6	4·4	25·7	+ 14·9	37·8	+ 0·1	45·0	46·3	30	— 4	0·89	— 1·05	9	10871	+ 833
FEB.	56·1	5·8	31·9	+ 23·9	43·3	+ 2·7	46·2	45·4	55	+ 5	1·98	+ 0·45	15	10943	+ 1431
MAR.	59·3	6·7	29·5	+ 10·5	42·5	+ 1·4	45·8	45·0	65	— 23	2·26	+ 0·29	22	10953	+ 452
APR.	71·9	7·1	34·9	+ 8·2	50·1	+ 5·2	50·6	47·0	198	+ 83	1·07	— 0·48	10	8778	— 713
MAY	70·7	7·9	32·9	+ 1·9	50·8	— 0·7	55·9	49·0	128	— 11	1·51	— 0·57	17	8755	— 275
JUNE	82·9	0·1	40·2	+ 2·6	58·2	+ 1·0	60·6	52·0	186	+ 41	2·64	+ 0·04	11	8177	— 122
JULY	82·6	5·9	46·1	+ 6·6	60·6	+ 0·6	62·0	54·0	126	— 17	3·77	+ 1·65	20	8074	— 217
AUG.	79·3	14·6	47·5	+ 6·3	61·2	+ 2·0	59·8	55·0	156	+ 15	2·29	— 0·61	12	7161	— 1362
SEPT.	76·6	14·0	38·4	+ 5·4	56·1	+ 0·5	59·3	55·3	164	+ 53	0·93	— 0·76	10	8473	+ 525
OCT.	65·2	11·3	36·6	+ 8·7	51·1	+ 2·6	53·0	53·2	54	— 17	1·63	— 1·17	12	7608	— 1362
NOV.	56·1	5·5	27·8	+ 7·8	43·4	+ 0·5	49·5	51·4	37	+ 1	3·47	+ 1·26	18	10219	+ 902
DEC.	51·3	5·5	25·1	+ 10·7	39·1	+ 0·1	46·0	48·0	34	+ 8	6·32	+ 4·11	22	11597	+ 1021

\* In the twenty-seven years 1887-1913.



TABLE X.

Analysis of Water Supply by the City Analyst.

Date of Receipt of Sample.	PLACE WHERE TAKEN.	Parts per 100,000.									Appearance in 2ft. Tube.			
		Total Solid Matter.	Free Ammonia.	Albuminoid or Organic Ammonia.	Nitrogen in Nitrates.	Oxygen Consumed in 3 hours, at 27° C. (80° F.)	Chlorine in Chlorides.	Hardness (as CaCO <sub>3</sub> ).	Alkalinity (as CaCO <sub>3</sub> ).	Turbidity.*	Red.†	Yellow. †	Blue. †	
CORPORATION WATER.														
1914.														
Jan. 12	The Circle, Harborne Tenants ... ..	6.0	.001	.003	0	.22	0.8	3.5	2.3	0	1.0	5.4	0.2	
" 12	Yew Tree Cottage, Warwick Road ... ..	6.0	.001	.004	0	.22	0.8	3.5	2.3	0	1.0	5.4	0.2	
" 12	Back 155 Scholefield Street	6.0	.000	.003	0	.22	0.8	3.5	2.3	0	1.0	5.4	0.2	
Feb. 16	109 Midland Road, Cotteridge ... ..	5.6	.000	.002	0	.19	0.7	2.9	2.4	0	0.4	3.2	0	
" 16	18 Oldknow Road ... ..	5.6	.000	.004	0	.19	0.7	2.9	2.4	0	0.4	3.2	0	
" 16	149 Frederick Road, Aston	5.6	.000	.003	0	.20	0.7	2.9	2.4	0	0.4	3.2	0	
Mar. 16	81 Park Hill Road, Harborne ... ..	5.8	.000	.005	0	.15	0.7	3.0	2.5	0	0.2	2.4	0	
" 16	122 Rookery Road, Handsworth ... ..	6.0	.000	.004	0	.16	0.7	3.0	2.6	0	0.2	2.4	0.2	
" 16	16 Metropolitan Road ... ..	5.8	.000	.003	0	.17	0.7	3.0	2.5	0	0.2	2.4	0.2	
April 20	27 Watford Road ... ..	5.8	.001	.003	0	.13	0.7	3.2	2.6	0	0	2.2	0.2	
" 20	15 Wilton Road, Erdington ... ..	5.8	.000	.003	0	.16	0.7	3.0	2.5	0	0	2.0	0.2	
" 20	4 Sutton Street, Aston ... ..	5.9	.000	.003	0	.17	0.7	3.0	2.4	0	0	2.2	0	
May 18	High Street, Quinton ... ..	5.1	.001	.004	0	.14	0.8	2.5	1.9	0	0	2.2	0	
" 18	10 King's Road, Hay Mills	5.5	.000	.003	0	.13	0.8	2.7	2.2	0	0	2.0	0	
" 18	24 Little Francis Street ... ..	5.5	.000	.003	0	.13	0.8	2.7	2.2	0	0	2.0	0	
June 10	11 Middleton Hall Road ... ..	5.9	.000	.003	0	.12	0.8	2.7	2.3	0	0	1.6	0.2	
" 10	7 Rednal Road ... ..	5.9	.000	.005	0	.11	0.8	2.7	2.2	0	0	1.6	0.2	
" 10	143 Clifton Road, Balsall Heath ... ..	6.0	.000	.003	0	.11	0.8	2.7	2.2	0	0	1.6	0	
" 10	3 Essex Street ... ..	5.6	.000	.003	0	.12	0.8	2.5	2.1	0	0	1.6	0	
July 10	39 Watford Road ... ..	18.6	.001	.002	.15	.05	1.1	11.0	9.6	0	0	0.6	0.6	
" 10	16 Tindal Street ... ..	5.4	.000	.002	0	.11	0.8	2.5	2.2	0	0	1.2	0	
" 10	16 Metropolitan Road ... ..	28.8	.000	.003	.9	.05	2.1	14.0	7.1	0	0	0.8	0.8	
Aug. 21	Inglesiell, Middleton Hall Road ... ..	5.5	.000	.005	0	.15	0.8	2.7	2.1	0	0	2.4	0	
" 21	247 Bristol Road, Northfield ... ..	5.4	.000	.002	0	.15	0.8	2.7	2.1	0	0	2.4	0	
" 21	15 Palmerston Road ... ..	5.4	.001	.005	0	.14	0.8	2.7	2.1	0	0	2.2	0	
" 21	171 Watery Lane ... ..	5.4	.000	.002	0	.14	0.8	2.7	2.2	0	0	2.2	0	
Sept. 14	2 Redditch Road ... ..	5.4	.000	.005	0	.13	0.7	2.7	2.3	0	0	2.2	0.2	
" 14	206 Franklin Road ... ..	5.6	.000	.005	0	.13	0.7	2.7	2.3	0	0	2.4	0.2	
" 14	125 Aubrey Road, Small Heath ... ..	5.5	.000	.005	0	.13	0.7	2.7	2.3	0	0	2.4	0.2	
" 14	20 Langton Road ... ..	5.4	.000	.005	0	.13	0.7	2.7	2.3	0	0	2.4	0.2	
Oct. 12	58 Victoria Road, Harborne	6.2	.000	.005	0	.17	0.7	2.5	2.2	0	1.2	5.0	0.8	
" 12	3 Victoria Road, Acocks Green ... ..	6.2	.000	.004	0	.17	0.7	2.6	2.2	0	1.2	5.0	0.8	
" 12	35 Stone Yard ... ..	6.2	.001	.003	0	.19	0.7	2.5	2.3	0	1.0	5.0	0.6	
Nov. 16	Ridgacre Road, Quinton ... ..	5.8	.000	.004	0	.14	0.8	2.7	2.3	0	1.0	5.0	0.4	
" 16	39 Dunsmore Road ... ..	6.0	.000	.004	0	.16	0.8	2.7	2.3	0	1.0	5.0	0.4	
" 16	72 Alum Rock Road ... ..	5.8	.000	.004	0	.19	0.8	2.6	2.4	0	1.0	5.0	0.4	
Dec. 7	523 City Road ... ..	5.8	.000	.004	0	.16	0.9	3.0	2.3	0	0.6	3.8	0	
" 7	17 Ada Road, Hay Mills ... ..	6.2	.001	.005	0	.18	0.8	3.0	2.2	0	0.6	3.8	0	
" 7	39 Church Road, Aston ... ..	6.0	.001	.006	0	.18	0.8	3.0	2.2	0	0.6	3.8	0	

\* "0" indicates "clear," "1" indicates "very slightly turbid."

† The colour is expressed in tintometer units. Red with an equal amount of yellow forms *orange*, yellow with an equal amount of blue forms *green*, and equal amounts of the three colours indicate *grey*.









